

CU

CU AMIGA

MAGAZINE

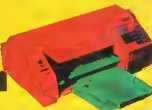
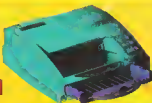
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CU AMIGA MAGAZINE • MAY 1995

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Which is the best printer for you? Whether you need a printer for DTP, graphics, professional documents or rough program listings, there's something on offer in our round-up of the best ink jet, dot matrix and laser printers. But it's more than just a buyers guide. It's got detailed graphic descriptions of the technology behind the various technologies and advice on which type of printer is best suited to your needs.



Fitting Hard Drives 34

Hard drives have never been cheaper and there's never been a better time to fit one to your A600 or A1200. Let's face it, very few Amigas have been sold in the last year, so invalidating the warranty is no longer an issue! We show you how it's done on page 34. It's a lot easier than you might think.

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PLAYER Manager 2

Player Manager 2 is a football management simulation with **ONE BIG DIFFERENCE** - you can actually test your managerial decisions where it counts - on the pitch.

Club History

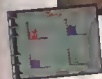


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Top Down



Isometric



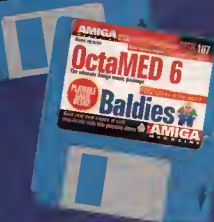
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Lawson Road, Oxford, OX4 1SR. Screenshots vary from format to format.

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DISK 106

ProDraw 3



This month we've got something a little special for you. Not only the stonking ProDraw program (worth £200) but also a bladder-busting demo of OctaMED 6.

ProDraw 3

ProDraw is a complete structured drawing package, allowing you to create stunningly detailed pictures, illustrations, logos and artwork. You can load these pictures into a DTP program for printing or convert them to IFF format for use in any normal graphics program. Even better, unlike with normal Amiga programs, when you resize these images they will remain just as good as the original and won't go all blocky or juggy. If you print them out (using a DTP program for instance) they will take advantage of the print resolution, getting better and sharper as your printer resolution increases.

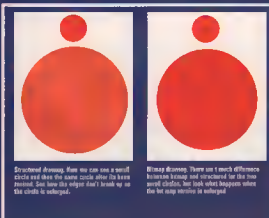
Structured drawings work on a different principal to bitmap drawings. DPaint, Brilliance and other bitmap based programs work by having a screen full of different coloured pixels. Pictures are drawn by changing the colours of

the pixels. When the pixels are small, you can't see the joins, but if they're blown up, the stepped edges become apparent. When you save the picture, every pixel and its colour value is saved.

Structured drawing (sometimes called vector graphics) programs

Compatibility

This is the full version of ProDraw 3 and works on all Workbench 1.3 and 2.04 systems. However due to bugs in the program, beyond our control, ProDraw does not work on Workbench 3 Amigas - the A1200 and A4000. OctaMED 6, the exclusive demo, (based on this month's game disk 107) does however work on Workbench 3 systems - have fun.



Structured drawing. Here you can see a small circle and how the same circle when its been resized. See how the edges don't break up as the circle is enlarged.

Bitmap drawing. Here we can see the difference between bitmap and structured for the two sized circles. See how the edges break up when the bit map version is enlarged.

Feature Overload

ProDraw is just overflowing with professional features and capabilities. In fact it's overloaded with features that both new users and professional graphic artists will find useful. Amongst the more interesting ones are:

- Text distortion tools
- Wrap text around curves
- Gradient colour fills - radial and linear
- Import Encapsulated Postscript and bitmap graphics.
- Save as Encapsulated Postscript for use with almost every DTP program
- Pastose colours for professional colour work
- Utility to convert bitmap pictures to structured drawings and vice-versa

There are all possible with our cover disk. You'll also find a range of utilities and simple clip art to help you get started - all courtesy of your friends at CU Amiga Magazine.

the other hand store only the data for the shapes that make up the picture, describing them by mathematical formulas. When you expand a ProDraw picture your Amiga looks at the shapes and redraws them at the new resolution, taking advantage of the increased number of pixels, in a bitmap program the pixels are stretched so pictures that looked good suddenly become blocky. Even if you stretch a ProDraw picture hundreds of times it won't lose any quality - try doing this in DPaint! Creating pictures in ProDraw will mean that they always look good, and get better when you show or display them on a high resolution monitor or printer.

Easily adapted

It's also easier to change a structured drawing. In DPaint when you draw a circle it becomes part of the picture - you're just changing the colours of the pixels in the area of the circle. To change the circle size you'll need to change the colour of the pixels again. A structured drawing program on the other hand holds the picture data as shapes that float on the page - they can be moved and changed at will. To resize a circle just grab the circle and drag it around! If a diagonal line is in the wrong place, click on it, pick up one end and drag it to a new location - simple.

There are other advantages as well. By only saving the mathematical shape data, structured drawing files are much smaller than bitmap JFF files. A black page with a red circle in it would be saved as 'draw a page, paint it black. Draw a red circle, 10mm in diameter, in the middle of the page. DPaint would have to save every pixel in the page, regardless of the fact that only a small area in the middle was being used.

Over the next few pages you'll find comprehensive details on how to decompress and use this powerful program, and on page 12 you can find out about all the exciting new features in OctaMED 6. Over the coming months we'll also be running a series of tutorials showing you how to get the most out of ProDraw.

Manic menus

Take a look at the panel on the right and try out the various tools. After experimenting them for a while you should be familiar with the basic tools of ProDraw and will be well on your way to being able to create detailed illustrations and logos. And ProDraw can do even more

ProDraw Explained

This is the drawing area. Objects (lines, circles, squares and text) are drawn here. To draw an object use the tools on the right hand side. Objects are selected by clicking on the Nul Pointer tool and then clicking on the visible edges of objects. To select more than one object hold the Shift key down whilst selecting them or use the Marquee tool and drag a box around the objects.

To delete an object select it and press the Shift and Delete keys at once. You can abort most drawing operations by pressing Escape. You can also force the program to redraw the display at any point by pressing the space bar.

NUL POINTER TOOL: Click here to move an object or existing object. Click on the edge of an object. A set of control points will now appear; drag these around to change the shape of any object. Alternatively click on the edge of an object and drag it to move the entire shape. You can also click on an object and then double click on the Nul Pointer tool belonging to a requester allowing you to type in object coordinates.

MAGNET TOOL: This provides a means by which you can work by accurate offset editing. Click on the tool. Place the crosshairs in the center of the area you want magnified and drag the mouse out to the edge of the area. The screen will now update showing a blow up view of this area.

FREE TOOL: Click on this for loose and flexible curves. For lines where you start here with the drawing area and click once. Release the mouse to another window and click again, a line will appear between the two points. You can keep dragging lines with the mouse to proceed. For Bézier curves press the Free tool in the drawing area and while holding down the mouse button, move the cursor around and release it when finished. A curve will now appear.

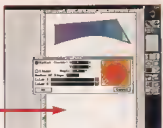
ELLIPSE TOOL: For drawing ellipses and circles. Click once in the drawing area, move the mouse over the area and click again. The ellipse will appear. To draw the ellipse, 2 coordinates (the X and Y of equal vertical and horizontal radii) (drawing a circle) hold down the ALT key while moving the mouse.

GRID TOOL: Creates a grid or table. Click on this and then drag out a box. A rectangular divided vertically and horizontally will now appear. Double clicking on the tool will allow you to specify the number of rows and columns in the grid.

SIZES TOOL: With this tool you can change the size of existing objects. Click on this and then with the crosshairs tool press click on one corner of an object. Then move the crosshairs to a different point (away from the object) and press the mouse button - but don't release it. As you move the mouse the object size will change. Press the mouse button to set the size. To return an object more accurately select the object and then double click on the sizing tool icon.

HUBBER TOOL: Imagine drawing a shape and then pulling a corner out in it. It's what the Hubber tool does. Select the object you want moved. Click the Hubber cursor on the object - this sets on a corner point of the rectangle. Now move the crosshairs to a new point and drag the pointer - a line will appear indicating the surface of the move. If it's what you want just drag the crosshairs in the direction you wish to rotate the corner and release the left mouse button.

ARC TOOL: Adds arcs around points to Bézier curves and other objects - rectangles, circles, etc. Select an object. Click on the tool and move the mouse down to where you want the new control point to appear. Press the left mouse button. Dragging the mouse instead of releasing it will allow you to alter the steps of the tangent of the Bézier curve.



A ProDraw can create stunning graduated fills of different colors. Here we can even have black and red fill in sections.

ARC TOOL: This allows you to run a range of Bézier curves. Has a space bar function we'll do something later in a later issue.

GROUP SELECTION: Allows you to quickly select one or more objects. Click on the tool and drag it over the objects to be selected - they'll all then be picked.

TEXT TOOL: Click here to enter text on the page.

RECTANGLE TOOL: This allows you to draw rectangles and squares. Just line the XKeys tool you can constrain the horizontal and vertical dimensions by holding down the ALT key in this case drawing a square.

CURVE TOOL: Allows you to draw freehand curves. Click on the tool, move in the drawing area and now press and hold down the left mouse button. Drag it around - you'll see a line appear. Once you're finished drawing release the mouse button. The line will now be converted to a series of Bézier curves which you can edit to form perfectly smooth curves.

ROTATION TOOL: Allows you to rotate objects. Select an object. Click on the rotation tool and with the crosshairs click on a vertical or horizontal axis. This sets the program which axis the object will be rotated through. Move the crosshairs to a different point, hold down the left mouse button and drag the mouse: the object will then be rotated. You can also rotate an object by entering rotation angles in move map on the sizing tool window.

DISTORTION TOOL: Distorts an object's shape. Select an object. A rectangle with control points on it will appear around the object. You can now drag these points out to distort the shape of the object. By holding down the Shift key and moving a corner point the two other attached will move the object's straight line. The ALT key will set the distortion vertically symmetrical, and the Control key makes it horizontally symmetrical.

CUTTING TOOL: Cuts shapes objects into smaller shapes. Select an object. Pick the cutting tool and click on the control point in the corner where you wish to cut the object. Now before releasing the mouse button drag the control point to its new location, holding down the left key whilst pressing the mouse button allows you to define a control point without setting the curve.



Speeding things up

Structured drawings are made up of mathematically defined shapes. To display these shapes it can often take a few minutes to work out the complex calculations required and as a result you will often find yourself waiting for the program. This is the case with all structured drawing programs, on Macs, PCs and Amigas. But ProDraw has the answer. You can turn off the full detail coloured display and work with just object outlines, using the full colour mode just to preview and check your work - making performance much faster. This is how most users work in ProDraw and other drawing packages. In fact the leading drawing program on the Mac (*Illustrator*) has only recently allowed you to edit pictures in full colour mode, previously forcing you to work in its 'Artwork' mode.

ProDraw loads with its outline mode 'Wireframe' selected as standard. To view a picture in full detail click on the Wireframe option under the Preferences menu - so there's no tick next to it. To see it in colour click on the Black & White line under the same menu. By turning these modes on, with a tick, you can make the display update quicker and faster. Working in Wireframe mode has no effect on the picture content, it merely hides the time-consuming detail from view.

Read on to find out more. Here's a further look at some of ProDraw's other features.

It's a wrap!

Under the Special menu you'll find an option called Align Text With Curve. This quite simply allows text to be wrapped around curves - perfect for creating logos and typographical effects. Create

some text using the Text tool and then create a curve. Select both objects (using the Null Pointer and Shift key). Now click on the Align Text To Curve menu and click on OK. You'll now see the text following around the curve.

Fill it

If you've created an object you'll undoubtedly want to fill it with

Communicating with the world

No, ProDraw doesn't have built-in modem, although if you've got a modem there is a lot of structured clip art you could get hold of from the Internet. If you've created some artwork you'll probably want to use it in a DTP program or another application.

There are several ways to do this. Firstly you can save it as a ProDraw Clip file - this will load into GoldDish's Professional Page. Alternatively you can save the drawing as an Encapsulated Postscript File (EPS) which you'll be able to load into any other good DTP program. To save a drawing as a Clip use the Save option under the Clips menu. For EPS files select Output/Postscript under the Project menu.

If you want load your pictures into something like DPoint you'll need to use another program, ClipMap, for example, which can be found on the second ProDraw disk. To convert your pictures using ClipMap you'll need to save your ProDraw illustrations as clips.



▲ With ClipMap you can save your ProDraw pictures into DTP files.

colour or make the border thicker. This is done from the Attribute menu. Try this out by drawing a circle. Now select the circle and click on the Gradient/Fill under the Attributes menu. You'll now see a requester allowing you to define a graduated fill (either radial or linear), and alter the colours used and other options. Click on OK and then turn off the Wireframe and black and white display modes under the Preferences menu. You'll now see your circle filled with a graduated tint. Try out the other options under the Attributes menu - this is fundamental for creating professional artwork.



▲ With the program's powerful Clone function it's possible to create impressive effects very quickly. And enter various parameters. You can duplicate the clone operation by pressing the Shift and Tab keys at the same time.

I object

Under the Object menu you'll find a number of very useful editing functions. The first of these are the Group and UGroup functions. These allow you to take two or more separate objects and 'Group' them together so they become one, living in mirrored bliss (or ever more, or something). To reverse the action use UGroup. The Align feature allows you to align several objects so their top, bottom, left or right edges all line up.

Cloned

The Clone facility is one of the most powerful functions of ProDraw. With it you can not only copy existing objects, but change the way they are placed on the page. As it copies an object you can also shift it to a new position, scale it, changing size as it goes and finally rotate it. To try it out highlight an object, select Clone

Coming Soon!

That's it for ProDraw this month. For now, you could be a lot worse than just playing around with the various tools and options. Learn how to manipulate Bezier curves, and object manipulation in particular. Over the next few months we'll be running in-depth tutorials showing how other parts of the program operate, along with many tips, tricks and hints to get more out of this amazing program. If you have any questions, ideas or work created with ProDraw send them to us (c/o Andy Leaning, ProDraw Corner, CU Amiga Magazine, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU).

LUSCIOUS CURVES

Bezier curves allow you to draw curves at any angle. Moving the control points will change the shape of the line. Clicking on a control point and then dragging the tangent line control points allows the angle of the curve to be changed. Understanding this process is vital to working with ProDraw.



PIZZA



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DISK 107

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Workbench 2
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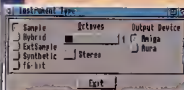
**Preview the amazing
new version of the
Amiga's best music
package, with our
exclusive demo on
coverdisk 107.**

New features

Here's a selection of the new features and improvements of OctaMED 6.

- Multiple commands on each line
- Custom screen modes
- Custom font selection
- ARexx port
- Aura and Toccata sampler support
- 16-bit sample handling
- Loads and saves MIDI files (saving disabled)
- Improved sample editor
- Save as executable (disabled)
- Enable/disable audio channels

Instrument types

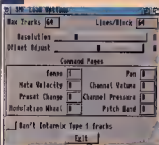


OctaMED 6 allows you to use a number of different instrument types. Amiga samples, synthesized Amiga sounds, hybrid Amiga samples and synth sounds, MIDI instruments, Aura 12-bit samples and Toccata 16-bit samples. Obviously you'll need the

Aura or Toccata sampler hardware to use these last two options. Any combination of these types can be used in the same song. Select the type by clicking on the Type button from the Main Control panel.

MIDI loading and saving

Standard MIDI files can be loaded, upon which they are automatically transferred into *OctaMED's* tracker format. The conversion from MIDI to tracker format can be controlled from the SMF Load Options window, from the MIDI menu. You can assign a command page to each of the MIDI controllers (see Command pages panel for more info). The commercial release version of *OctaMED 6* will also allow saving of songs in MIDI file format. You can't use it here however, as all of the save functions are disabled.

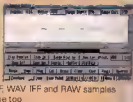


etting started. Load the demo module from the disk by selecting Open from the Project menu, then double clicking the *PianoNotesTheme1* file which can be found in the MOD drawer. Alternatively, try out the MIDI piece. You will need a MIDI instrument connected in order to hear this one.

We don't have room for full instructions here, but assuming you have some basic knowledge of previous versions of *OctaMED* (we gave away a complete version of *OctaMED 4* with the July 1994 issue), there should be no trouble getting into the program. For loading instructions, see page 18. What follows is a guide to some of the most prominent new features.

Sample editor

The sample editor can now handle 16 bit samples, and has extra editing features, such as adjust Y offset, add workspace, overwrite paste, better chord creation, lots of loop controls, a tuning tone, and plenty more. Take a browse through the menus and experiment. It can also load MAUD, AIFF, WAV, IFF and RAW samples. The full version will be able to save these too.



Command pages

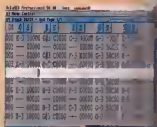
You can now use more than one command on each line of a track, to define how each sample is played. This is a powerful new feature. For instance, you could play a sample and strobe it on and off with the volume command, whilst pitch bending it to a lower note, and altering the sample offset value simultaneously! No other software gives you this kind of control over your samples and MIDI instruments!

There's no room between the tracks to include more than one command, so each block can be made up of a number of 'command pages'. Select Block Properties from the Block menu, and you'll see this window. Click in the box labelled Cmd Pages, and enter a number, depending on how many simultaneous commands you want to use. This makes a number of copies of the current block. These copies (command pages) are in fact sub-divisions of the original block. You can cycle through the command pages using the Shift and Tab keys. Inserting additional commands on subsequent pages. You'll notice the note data is carried across from the original, but the commands are not. All command pages are played whenever you play the original block.



Font selection

Now you can use bigger fonts for the various displays. Three different fonts can be assigned to the general screen, the windows and the tracker editor. This is very handy, as it frees you from the eye-strain of reading tiny letters and numbers, particularly in the tracker editor. There are no extra fonts on this disk, but you can use any you may have on your hard drive or other disks. Select



Font from the Settings menu to access this feature.

Simply the **BEST**



The best interactive action ever!



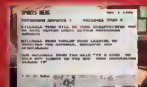
Check out your player's skills
and watch them develop.



Keep your bank manager happy,
or face the consequences!



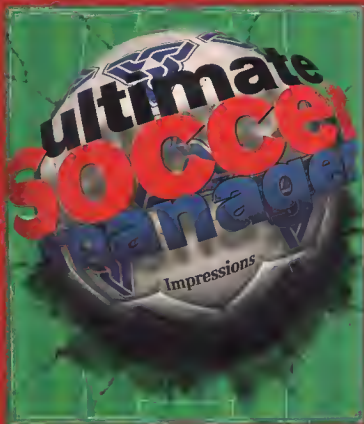
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NICE ONE SQUIRREL!

Amiga Format 93% CU Amiga 94%
Amiga Shopper 95% JAM "The best piece of
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 ... well done, HiSoft!"

As you can see, the Amiga press has gone nuts over our new Squirrel SCSI Interface for the A600/A1200. In case you've missed these reviews, the Squirrel SCSI is a plug-and-play add-on that allows you to connect up to 7 SCSI peripherals to your Amiga. Just think of it, CD-ROM, Hard drive, Scanner, DAT, Optical, SyQuest, Tape Streamer! all on line at the same time! No wonder we named it after that famous storage-hungry animal! To go with Squirrel, here are some great value devices.

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Not all CD-ROM drives are the same. Our SuperDouble and SuperTriple drives are fast, modern devices supporting all the SCSI features that you'll need, based on quality units from the world's leading manufacturers of CD-ROM: Sony & Toshiba. Both drives are cased in extremely stylish enclosures with all SCSI connectors and offer fast access times, stereo headphone sockets with volume control, phone line output, PhotoCD™ multi-session support, CD32 emulation, CD-DA compatibility with the convenience of tray-loaded action. The SuperDouble™ CD-ROM drive offers 380K/sec transfer while the SuperTriple™ attains 510K/sec; both far faster than any competitive drive for the Amiga. **90% Amiga Format**

These are the drives we use for developing and testing the Squirrel hardware and software. Need we say more?

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Introducing removable SCSI drives for your Amiga. Based on reliable, proven SyQuest™ mechanisms, these 88Mb and 270Mb units offer transportable, compact, high performance and above all, expendable storage for all your computing needs. SyQuest is the world leader in this technology across computer platforms which means that you can transfer work between Amiga, Macintosh™ and PC, with ease. We recommend the CrossDOS and CrossMac software packages to simplify portability - call for pricing. Our drive prices include 1 year carriage

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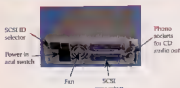
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Hard drives are becoming more and more affordable and we can now offer some tremendous prices on a range of superb quality Quantum drives in a range of capacities.

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We can supply all leads, terminators etc. Please feel free to discuss your exact requirements with our friendly technical staff.

Squirrel Storage Systems



All our Squirrel Storage Systems come either bare (int - ready for installation internally within a suitably-equipped Amiga or other computer) or fully-cased (ext) with integral power supply, SCSI in/out, SCSI ID selector and audio out (for CD ROMs). The cases we supply are high quality, sturdy, snap-together enclosures, each with 40W power supply - the back panelled the 5 1/2" case is shown above. These SCSI enclosures are available at **£69.95** each (please specify 3.5" or 5 1/2" when ordering).

The neat Squirrel SCSI interface is shown on the right. The unit simply plugs into the PCMCIA slot, comes complete with all the software you need together with a cable which terminates in a 50-way Amphenol plug to attach to your first SCSI device.



the Squirrel SCSI interface

Twist 2

Twist 2 is the new, trendy, relational database for all Amigas. Twist's range of power features such as its integrated forms designer to visual & multi-level querying, its N:1, 1:N & N:M relations coupled with its un-cluttered, well-designed user interface make it ideal for both the first-time and the seasoned database user.

Twist 2 is the only database you will ever need a product that expands to meet your requirements as they grow. So, before you buy another database, why not take a look at the Twist demo disk?



The best of our highly acclaimed sound samplers for the AGO/A1200. Aura offers high performance 16/16 bit quality with direct-to-disk sampling plus a host of software features. Ordered 5.04 up compatible.

96% Amiga Shopper 99% AUI

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Professional game development is made easy with the new GameSmith Development System. Over 3 years in the making, GDS gives you the low level power to create the landscapes of your dreams in a single, easy-to-use, comprehensive environment using C or assembler. Comes complete with junior windows of Disk C and Dvcpac 3. **90% AUI 92% CU Amiga**

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Ordering Information

All HiSoft products (see the complete list below) should be available through your favourite Amiga dealer. If you have difficulty in obtaining any item you can order directly from HiSoft - just call us free on 0800 223666, armed with your credit or debit card - we will normally despatch within 4 working days or for an extra £65, by guaranteed next day delivery (for goods in stock). Alternatively you can send us a cheque or postal orders. All prices include VAT. Export orders call or fax to confirm pricing and postage costs. © 1995 HiSoft, ESOC. HiSoft products for your Amiga: Squirrel SCSI Interface - £59.95, Squirrel Storage Systems - as above, Aure 12/16 bit sampler - £99.95, MegaSound 8 bit sampler - £34.95, ProMix Interface - £24.95, HiSoft Dvcpac 3 14 - £79.95, HiSoft BASIC 2 - £79.95, HighSpeed Pascal - £39.95, Gamesmith - £39.95, Termite - £39.95, Twist 2 database - £39.95, Mason Magic - £29.95, Upper Disk Tools - £14.95, VirtualIt, MakePath/TerraForm - £39.95 and much more. Coming soon: DiskMangle (disk tools) and Cinema4D.

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DISK 10

Baldies

Can you make the world a better place for a crowd of tiny slapheads? Test your theories in this exclusive demo from Gametek.

Baldies is a fun mouse-controlled arcade strategy game where you must populate the land, construct buildings and invent new technologies. The main aim is to cultivate your tribe into the strongest in the world and defeat your enemies. Follow the loading instructions page 18 to load the demo. Once the demo has started you will notice three areas on the screen. The area on the left hand side of the screen is the main world, the area along the bottom

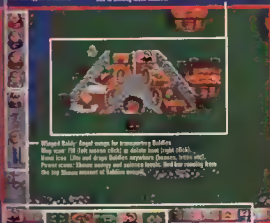
of the screen is the invention panel, the rest of the screen is the game area.

The landscape can be scrolled by moving the pointer beyond the cursor in the direction you wish to scroll. Whilst moving around the landscape you will notice two tribes of people, Baldies (which are yours) and another hairy and slightly ape-like species called the Haines. These are the current inhabitants of this land and must be killed by your Baldies using a variety of methods.

Begin by assigning some of

The house panel where it all happens. Builder Baldie is busy making a new house. Scientist Baldie is working on a stink weapon, soldier Baldie is making bullets and the Baldie jumping up and down at the bar is making more Baldies.

The four types of Baldies



Winged Baldie: Angel wings for transporting Baldies. They wear 78 (left screen right) to deliver food trays (left). Hawk-like (left) and dragon Baldies anywhere (bottom, bottom right). Power-ups: Stink weapon and stink bomb. Red bar running from the top shows amount of Baldies owned.

Bottom panel: Shows invention cabinet and the state of its development. It is ready to use when the bar is totally green. Buttons: Start and end of movement (bottom left), Scientist: Build, discovery levels, House: House building, Item left: Tools, Baldies: Build, stink bomb and opening and closing type doors. Weapons: Stink bomb, and are lost from screen from doors. Scientists: Kill all Haines in the stink bomb, as does the stink bomb. Stink bombs are lost from screen into houses, as they make all the Haines much out of the land doors, where they can be caught with a hole in a trap.

Demo for Kickstart 2.0 and above, with 1Mb of Chip RAM.

your Baldies as builders. Building a house gives you vital weapon-building options.

Housey, housey

Clicking on one of your houses brings up the 'house panel'. The house panel allows inventions to be created and other houses to be built. The house panel is also where more Baldies are reproduced. If the house gets full the Baldies will all troop out. So try to keep a good balance of Baldies. All four types are vital to success, but you'll need some more than others in certain situations. Baldie management is the key.

Invention

Once you have a scientist in the house and at least one wandering around outside it's time to start inventing! Open a house panel and click on the yellow question mark above the scientist (this icon shows that no inventions are currently being worked upon). A list of possible inventions appears. Choose an invention by clicking on

it. Click on the main door to exit the house. The invention that was selected will appear on the left-hand side of the invention panel. When the invention is being worked on, the bar to the right of it will fill up with red, turning green when it's finished. You can then concentrate on another weapon.

Once you have enough weapons you can scroll down to hairy tentacles and test them out. The stink bomb is a good one to send Haines flying out of their house and if you've set a trap outside the front door they will all run straight into it. There are numerous other ways to dispose of Haines. For example, try using the map edit icon to get rid of any land that they may be standing on. This sends them to a watery grave. Alternatively, soldier Baldies can be placed in trees to lay in wait and then ambush any Haines wandering about.

There is so much to this demo it's impossible to cram it all in here. It's best to explore all the possibilities yourself - have fun!

The baldies explained

- **Workers (red)** are the standard Baldies. Workers are the only Baldies that can procreate and initially make up the main body of your force.
- **Builders (blue)** will wander around the landscape until they find somewhere to build a house. Then they get to work (providing you have enough power).
- **Soldiers (green)** will defend your houses (from inside) and wander the land looking for enemies to eliminate. Soldiers residing inside houses also make bullets for use in battle.
- **Scientists (white)** are the brains of a Baldies colony. They wander around relaying the overall science level of your team. Scientists inside a house are create weapons.

SoftWood Software will go down in history the best there's been... for ages

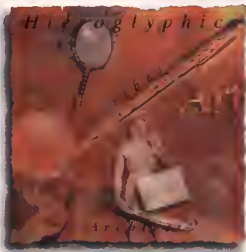
The way we all communicate today has gradually evolved from early cave paintings by Prehistoric man, through Egyptian Hieroglyphics and eventually on to a method of symbols representing both letters and numbers. Early inscriptions in stone gave way to clay tablets, papyrus, parchment and ultimately paper, and the Greek alphabet became the basis of most of today's languages.

Books were created by hand until the mid 15th century when crude printing processes were first introduced. Albeit with continual refinements, printing methods have, until very recently, remained the only way to distribute the written word and hence a host of information throughout the world.

The biggest leap forward has been achieved in the last ten years! Through the adoption of computers generated text at a new standard, complicated layouts and designs can now be generated and printed at the touch of a few keys right on your desktop. And it doesn't stop there.

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At SoftWood, our constant aim is to bring you these very cutting up to date technologies with the best possible software for your specification of Amiga. Our word processing packages have repeatedly won the favour of magazine reviewers, who have awarded



SoftWood products their highest accolades, all over the world. We are continually updating and improving these products and adding new ones, such as Final Data™ and soon, Final Calc™ to our range. Our efforts are bringing the revolution into your home or office... and onto your Amiga.



Word Processing/Publishing...

Whatever specification Amiga you own, SoftWood have the perfect solution for your requirements. Final Copy II™ Release 2 is at the peak of achievement when running a floppy based Amiga configuration, whilst Final Writer™ Release 3 is the only hard drive compulsory Amiga word processor - it leaps a stage ahead and doesn't make any compromises to be floppy disk compatible. Whichever you choose, you'll be

assured of the latest in WYSIWYG technology and reap the benefits of still unsurpassed, easy to use, Amiga software from SoftWood.

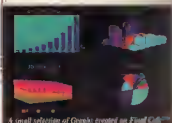
Our new Database...

Final Data™, is designed in the true SoftWood tradition and brings you a program that is not only extremely powerful, but also very easy to use. Indeed, you can learn to set up your Final Data™ database, enter your information and print the results in a matter of minutes... not hours. You'll soon be generating all kinds of reports and label print runs to suit your kind of work.

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Final Calc™ is the answer to every Amiga Spreadsheet users dreams. With its flexible modes of operation, Final Calc™ is the only Spreadsheet that can start with a minimum range of features (ideal for the beginner), but progress to offer power beyond the levels found not just on any other Amiga Spreadsheet, but almost any Spreadsheet on any computer system. Multi-layer sheets, advanced PostScript outputting facilities with flexible font handling, complex document scaling options, a vast choice of Graph styles including 3D and animated (to show calculation results/progressions) are just some of its comprehensive and unique features.

Final Calc™ is due for release in Spring 1995, so look out for the magazine reviews. If you want to know more now, simply cut the coupon (on the right) for your free advance information.



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Final Copy II™ Release 2

Designed to get the most out of an Amiga floppy drive based system, Final Copy II™ offers more than just word processing (at which it usually excels) and opens up a world where "how the document looks" is as important as "what the document says".



Compatibility: Floppy or Hard Drive Systems

Final Copy II™ is ideal for that quick letter or short report. Its features which are powerful enough to help you produce end results normally associated with expensive Desk Top Publishing packages... easy to achieve, without the fuss!

Unique features such as FinalDraw™ on screen drawing tools (to generate boxes, borders, lines and arrows etc.) and Perfect Print™ (an advanced system that enables you to print the same Postscript™ native fonts to any printer at both landscape & portrait modes) ensure that Final Copy II™ is the leader in its class. You can easily generate multiple newspaper style making columns, support any graphic objects or pictures and place them anywhere on your page, scale or crop these graphics and also auto flow text around them. You can even



print text over graphics and the output is always of the highest quality. Final Copy II™ offers the best balance between word processing and more advanced page layout creation - in one great program.

Ease and speed of use with total control of the final presented presentation is available on your floppy based Amiga system right now for only **£49.95 inc. p&p**

Final Copy II™ requires any Amiga floppy or hard drive system with a minimum of 1Mb free RAM (6400 hard drive computers need 1.5Mb). Two floppy drives are recommended for total flexibility with no installation or multiple disk images required.

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Hard drive compulsory, this new program is for power users wanting the ultimate performance. As with Final Copy II™, excellent output is guaranteed utilizing PerfectPrint™ and you'll also benefit from a host of other advanced features including:

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- **Touch Tools™** & **PowerUserBase™** giving "one touch" control - just click on a button, define, change and save such attributes as text position, font size, font styles (bold, italic, underline etc.), justification, bullets, line spacing, indents etc.
- **FastDraw Plus™** allowing more versatile on screen drawing tools which include options like rotation.

Final Writer™ can also import, scale, crop, view on screen and output structured PostScript EPS clip-art images (we even include 100 level) to any printer. With PostScript printers your options include: thumbnails, crop marks, scaling and halftoning.

Add Aliases/Macros, floating palettes, and/or hot text formatting and graphics, table of contents, auto underlining, table of illustrations, bibliography generation, new drag & drop



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Compatibility: Hard Drive Systems Only

Final Data™ New Release

Final Data™ has been designed by SoftWood to be by far the EASIEST TO USE Database for your Amiga. Many users dislike the involved "two stage" process conventional databases leave you to follow

To set up a Final Data™ database, you won't be confronted by an array of unfamiliar commands. Simply define a column for each sort of information you want to keep: christian names, surname, house name or number, street, town, county, postal code and phone number etc. Incidentally, you can add or remove columns at any stage during your working session.

Your database will appear as a table with rows and columns allowing you to view whole ranges of data at the same time. Columns widths can always be adjusted, to suit your requirements, by simply dragging their borders with the mouse. Data is then entered into "cells" and Final Data™ even detects entries of invalid dates etc. and displays an alert message for your attention.

Screen totals are available as options on all arithmetic and calculations (numbers can also be formatted with currency signs and commas again you can decide).

Final Data™ is ideal for label printing and even has built in routines that remove all the complexities even this often involved task. You can always utilize the "Print Merge" feature found in Final Copy II™ and Final Writer™ - simply select the program you are using and Final Data™ does the rest automatically for you. The program is also capable of reading any database created in Fox Pro™, dBase™, File and File Rite™ as well as standard ASCII files found in many other common programs. Above all you'll be able to start using Final Data™ immediately.

An easy to use yet extremely powerful method for keeping all your records as order from SoftWood Direct at only **£39.95 inc. p&p**.

Final Data™ requires any Amiga system with a minimum of 512K free RAM operating under Workbench 1.3 or higher.



Compatibility: Floppy or Hard Drive Systems



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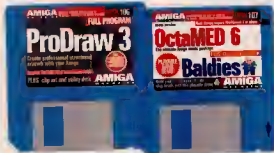
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coverdisks

How to load...



Before you do anything
Write protect your coverdisks!
 Your coverdisks will be write enabled when you take them off the cover of this magazine. Make sure you write protect them, by sliding the tab in the corner so that there's a small hole. This will stop you accidentally writing over the original during the decompression process.

IF YOUR DISK WON'T LOAD

We go to great trouble to ensure that the CU Amiga Magazine coverdisks will work on common Amiga models. However if you do experience problems follow this simple guide:

1. Remove all unnecessary upgrades and peripherals, such as printers and modems.
 2. Some inboard expansions can also cause problems.
 3. Follow the instructions on this and previous pages exactly.
 4. If you still experience problems loading the disk call the DiskExpress helpline on 0451 810 798 between the hours of 10am and 5pm Monday to Friday.
- If they advise that the disk is faulty, fill in your details in the form below, and send this form along with the faulty cover disk and a 20p stamped self addressed envelope to:
- CU Amiga Magazine Disk Returns, DiskExpress, Unit 7, Willow Court, Bourton Industrial Park, Bourton-on-the-Water, Gloucestershire GL54 2HD.

NAME _____
 ADDRESS _____
 TYPE OF AMIGA OWNED _____
 DISK NUMBER _____
 DESCRIBE EXACTLY WHAT HAPPENS WHEN YOU TRY TO LOAD THE DISK _____

ProDraw

You'll need two spare disks to hand, onto which the ProDraw program and data files will be expanded. Follow these steps to make up your working ProDraw disks.

1. Insert coverdisk 106 into the internal floppy drive and reset your Amiga.
2. Double click on the CU Amiga disk icon.
3. Double click on the icon marked ProDraw1.
4. Insert the first blank disk and press Return when requested.
5. Swap the first blank disk for cover disk 106 when asked to do so.
6. Swap the cover disk for the first blank disk once more and press Return when prompted.
7. Insert the coverdisk once again when asked to do so.
8. Mark your first blank disk 'ProDraw Clip Art'.
9. Double click the icon marked ProDraw 2.
10. Insert your second blank disk and press Return when requested.
11. Replace the cover disk one last time when asked to do so.
12. Label your second blank disk 'ProDraw Clip Art'.
13. Insert the disk marked 'ProDraw Program disk' and reset your Amiga.
14. Double click on the icon marked 'ProDraw 3.0 Disk 1', and then on the icon marked 'ProDraw'.
15. ProDraw will load. Now refer to the instructions on page 8.

OctaMED 6

OctaMED 6 is on coverdisk 107 in compressed form. Before you can use it, you need to decompress it onto a blank disk. Follow these steps to make up your OctaMED disk.

1. Insert cover disk 107 into the internal floppy drive and reset the Amiga.
2. Double click the icon marked 'CU'.
3. Double click the icon marked OctaMED 6.
4. Insert a blank disk and press Return when asked to do so.
5. Replace the blank disk with the coverdisk when asked to do so.
6. Label your blank disk OctaMED 6.
7. Insert the OctaMED 6 disk, and reset your Amiga.
8. Double click the icon marked 'OctaMED 6 Demo'.
9. Double click the icon marked 'OctaMED 6'. Click on Cancel when asked to 'insert volume Fonts'. Now refer to the instructions on page 12.

Note: We've squeezed a few bonus samples and instrument sounds onto cover disk 107 in uncompressed form. These can be loaded into OctaMED 6 for use in your own compositions.

Baldies

Before you can play Baldies, you need to decompress it onto a blank disk. Follow these steps.

1. Insert coverdisk 107 into the internal floppy drive and reset the Amiga.
2. Double click the icon marked 'CU'.
3. Double click the icon marked Baldies.
4. Insert a blank disk and press Return when asked to do so.
5. Replace the blank disk with the coverdisk when asked to do so.
6. Swap the disks back and press Return at the prompt.
7. Replace the cover disk when asked.
8. Label your blank disk 'Baldies'.
9. Insert the Baldies disk into the internal drive, and reset the Amiga. Baldies will now load. Refer to page 15 for playing instructions.

Award Winners

The Three classic titles no collection should be without brought together in one superb value pack!



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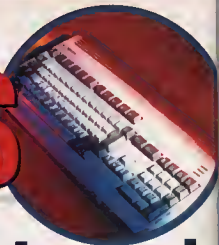
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News



Germans launch sneak attack on Commodore!



ne of Europe's largest PC manufacturers and retailers has been reported as putting in a surprise \$5 million (£3.2M) bid to buy the assets and trademarks of Commodore International. Escom is a £1.6 billion turnover company which operates in nearly all European countries and many of the old Soviet Block countries.

Escom has major plans for computer retailing in the UK high street market. It already has a chain of 24 shops in the UK as well as a presence in 35 Office World out-of-town stores. It has also just purchased Rumbelows, the UK based chain which was recently closed down after significant trading losses. It now intends to re-open all of the stores whilst expanding its Office World presence too. In total it will have over 300 Escom outlets in primary high street locations, or major out-of-town sites by the end of the year. To run these it plans to increase its UK staffing levels by 1,500 people.

Bernard Van Tienam - Managing Director of Escom Holland - told CU Amiga Magazine that the UK stores will primarily sell Escom branded PCs, including multimedia systems. Escom claim they already produce some 400,000 units (PCs) from their German manufacturing plants. In an exclusive interview Mr Van Tienam went on to say that Escom are also considering



moving into telecommunications, and set-top-box technology.

CU Amiga Magazine first heard news of the bid in mid March and it was then reported in the ECTS issue of the games trade magazine CTV. However, when asked to comment on their reported bid Mr Van Tienam would neither confirm nor deny the presence of money on the table and was also unwilling to comment on the status of the Amiga if they won a bid for it. However, the Amiga's potential as a set-top delivery-box would obviously fit in neatly with



▲ Could this badge appear on Amigas in the future?

◀ An Escom designed PC. Dreamed he?

Escom's future plans.

The Amiga would also provide Escom with a low cost home computer to complement the higher priced PC systems currently sold through its shops.

David Pleasance, who is jointly heading up a prospective rival management buyout of Commodore's world wide rights, wasn't worried by the move though, claiming that their bid was still the most likely to succeed. Either way it is obvious that the Amiga is still in demand, not just by users and dealers, but also by prospective manufacturers.

Mac-beating graphics

One of the best structured drawing programs for the Amiga is to be upgraded. *ProVector Version 3* from Stylus Inc will be released shortly. Version 2 of the program suffers from several important limitations that have prevented it from overtaking its rival *ProDraw* as the best structured drawing program. The new version will give Amiga users power previously only seen on Mac drawing programs such as *Adobe Illustrator*.

Version 3 looks like becoming the champion of Amiga vector graphics. Amongst the many new features are powerful clipping paths (allowing objects to be masked out), gradient fills, file support for *Adobe Illustrator*, and numerous new object tools such as blending, skewing, mirroring and warping. The program will also provide full *AltKey* support, on-line help and other Workbench 2 and 3 enhancements for improved ease of use.

Jeff Blume, Vice President of Stylus, said of the new release, "We are committed to providing Amiga users with a superior drawing program and we will continue to improve the *ProVector* family of products."

The Stylus Pro-Pack has a suggested price

of \$299.95 but for a limited period Stylus will selling it at an introductory price of \$199.95. Stylus are also offering an upgrade for users of earlier versions of *ProVector*, *Art Expressions*, *Professional Draw*, *Design Works* or *Amiga Draw*, although exact upgrade pricing was still being finalised at press time.

CU Amiga Magazine is currently liaising with several UK distributors to apportion UK availability and will bring you full details of UK support, pricing and shipping details shortly. In the mean time Stylus are on 0103 303 484 7321.



Ocean teams up

Team 17 have signed a deal with Ocean Software to exclusively distribute their games on all formats. The deal in which both Ocean and Team 17 retain their own separate identities, will increase the Team's software distribution from their current 18 countries to 64 countries and will provide the necessary cash and backing to launch titles across all home entertainment machines. At the moment Team 17 concentrate on the Amiga and PC but as part of the deal games like their forthcoming blockbuster *Warms* will be released on up to 16 formats.

In the future, games which fall under the deal will be branded with both the Ocean and Team 17 logos. Will Team 17 be swallowed up though? Alan Bunker, their PR manager, was keen to stress that "Team 17's branding will be maintained and we are still 100% independent".

Evasive Action

Mindscape have been very evasive about their latest slice of aerial action. We should have had a preview of this 'dog-fight simulator' in the games section this month but due to mysterious circumstances (probably something to do with the ECTS) we never got hold of it. It sounds good though, with four different fight scenarios promised: 'World War 1, World War 2, modern jet combat and futuristic space combat. Mindscape's PR department has gone to great pains to point out that *Evasive Action* is not a flight sim in the conventional sense of the term, it is an air combat simulator designed to emulate one on one air combat, using 3D graphics and arcade style gameplay. Hopefully we'll have that full preview next month.

ComicSetter success

CU Amiga Magazine's January 1995 issue *ComicSetter* coverdisk is being used to illustrate *MicroMenacs*, a car magazine for *Microcar* enthusiasts. Although not quite up to Judge Dredd standards, *MicroMenacs* is now using the program to produce on-page cartoons. For more information on the magazine, contact Steve Pepper, 42 Charles Avenue, Harrogate, North Yorks, HG1 4PE. Tel: 01423 524840.

Raging on

Primordial Rage is now scheduled for a September release on all formats. First announced by CU Amiga Magazine back in

December the coin-op conversion of this 'beat 'em up extravaganza' is now well under way for the Amiga.

This is being handled by Mortal Kombat 1 and 2 veteran Probe Entertainment and is expected to be finished by the end of the summer. The coin-op has a multitude of difficult moves for you to master, but Probe expects to be able to incorporate all of them (and even some extra ones if all goes according to plan) using either one or two

button joysticks or joystick. Sounds like fun! We have a Work In Progress on *Primal Rage* next month.



Book 'em!

Veteran Amiga book publisher Bruce Smith Books has released a new AmigaDOS programming guide 'Mastering AmigaDOS Scripts' written by Mark Smiddy. It covers all aspects of writing AmigaDOS scripts covering small utilities and bigger programs too.

There are over 100 ready-to-run programs listed in the book suitable for AmigaDOS 1.x, 2.x and 3.x systems. Each script is explained on a line by line basis to aid the learning process.

To complement Mastering AmigaDOS Scripts Bruce Smith Books are producing a disk that contains many of the scripts listed in the book. It also has several PD/Shareware utilities on it to help your programming. This is available for £2.00, via a coupon in the back cover.

This book costs £19.95 and is available from major book stores or via the Computer Bookshop on 0121 706 1250. We should have a review of it next month.



Buy your RAM boards now!

If you're thinking about buying a RAM upgrade in the next few months now might be a good time to invest. The rapidly rising strength of the Japanese Yen means that for eastern manufacturers are having to swallow large losses when exporting products to foreign countries, and Japan is one of the primary producers of memory chips. In the last weeks of February and early weeks of March alone the Yen rose by an astonishing eight percent. This compounds on the losses manufacturers suffered after Kobe earthquake. The two factors combined are forcing some manufacturers to consider rising prices to customers.



Picture of RAM accelerator card; look out for slow in this area later

Write to your CD!

A German software developer claims to have created a program that allows normal Amigas and CD drives to write to compact discs. Previously CDs have been read only, which means that while they can store vast amounts of data you couldn't write your own information to them.

Now Ralph Sabel and Stefan Ossowski (the creators of the Amint, Imagine Enhancer and other CDs) claim to have developed a software application that, enables your Amiga to write to CDs using normal CD drives.

According to details from their German based company - Schatztruhe - the CD Write software will allow you to store programs and configuration data on CDs, rearrange data, remove obsolete or undesired data and change icons.

Too good to be true? Well it is, as we discovered. In reality all the program does is transparently redirect instructions for the CD drive to either a floppy disk or hard drive, giving the impression of having a writeable CD. Quite why you'd want this program is anyone's guess, but if you're interested Power Computing are Schatztruhe's UK agents. Call them on 01234 273000.

Invisible ink

Hewlett Packard have just announced a new... what's this... we can't read it! The new... seems to be lading. If anyone at Hewlett Packard is reading this could they please... the press release dated 1 April again.

CD32 drops in price

Silica are now selling their CD32 Critical games console pack for £199. £40 off the previous price. Silica's pack includes the CD32 console and seven game titles - *Canon Fodder*, *Diggers*, *Liberation*, *Microcosm*, *Oscar*, *Project X*, and *Ultimate Body Blow*. Silica are on 0181-309 1111.

ICPUG discounts

The Independent Commodore Products Group (ICPUG) is offering members who for eight months (1st May to 31st Dec 1995) a discount subscription. The reduced rate being £16.50 for UK and BFPO members, £20.50 for Europe and surface mail to overseas. ICPUG membership gets you four issues of the ICPUG journal, 1 year PD software technical hotline and offers support and advice. Contact Tim Amot, 17 Colne Drive, Oaklands, Didcot, Oxon, OX11 7RZ. Tel: 01235 815725 after 8.30pm.

Twist correction

Two mistakes crept into our review of the Twist database in the April 95 issue. The Twist database in the UK by HiSoft actually published in the UK by HiSoft and has a price of £99.95. This does affect our rating of this program, which one of the most powerful databases on the Amiga.

HiSoft have also announced that a version of the program will shortly be available. Contact HiSoft for full details: 01525 718181.

Animation CD

Weird Science have released a new... Packaged with animations the two CDs contains work from animators around the world. Available now, Animations... £19.95 and you can contact Weird... 0116 234 0652.

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Printer Showdown

Everyone who has an Amiga should have a printer ... and most people who have a printer would like a better one! We round up ten of the most popular to help you out.



After upgrading the internal hardware of your Amiga, one of the most useful expansions money can buy is a printer. And there's certainly no shortage of printers available – just look through the pages of any computer magazine and you'll see all sorts of models. But which is best for you? Here's where we come to the rescue. Over the next few pages you'll find everything you need to know about buying and using a printer with your Amiga. It's all here, from identifying the type of printer best suited to your needs, to explanations of the complex jargon. From ecological considerations to getting the best out of it once it's connected to your Amiga. And then of course there's the comprehensive buyers guide to ten popular models ranging from low budget dot matrix to mid range, fast laser printers.

General use

But first, there are several important considerations to be made before choosing which printer to buy. The first of these is what kind of document you intend to print. With the obvious exception of price, this is the most important thing to bear in mind, as certain printers are better suited to outputting text, colour graphics or DTP pages than others.

From our most recent reader survey we found that most of you will use a printer for one of four main reasons: general use, word processing, producing prints of your graphics and DTP.

If you want a good all-rounder that can handle the odd letter, maybe some program listings and ReadMe files, with the ability to print graphics too, then a dot matrix printer is often the best option.

Dot matrix printers are the oldest of the

printer technologies seen in this feature. They consist of three main parts: a print head, a motor and a paper feed mechanism. The print head consists of a square of tiny pins. Individual pins are moved forward creating the shape of each character or pixel in the case of graphics printing. This shape is then pressed against an inked ribbon which in turn presses onto the paper, forming the shapes of the page. After each character is printed the motor moves the print head horizontally to the next character. When it reaches the far right edge of the page, the print head is moved back to the start of the line and the paper feed mechanism moves the paper sheet up one line.

Finer detail and higher quality results are achieved by increasing the number of pins in the print head. The cheapest dot matrix printers have nine pins, although the much higher quality 24-pin models now cost as little as the nine pin models.

Colour dot matrix printers work by having a ribbon composed of four bands of colour (typically red, blue, yellow and black). The printer can move the ribbon up and down so the print head presses against the different colours. By printing over the same character with the different colour bands, a wide range of colours can be produced.

In recent months the prices of dot matrix models, particularly 24-pins, have fallen dramatically. 8-pin models can be bought for around £100 although the quality is only really suited for personal use. Higher quality 24-pins can now be bought for as cheap as £150, which is a dramatic decrease as only a short time ago they cost around £300-£400.

Word processing

Good text printing is obviously a primary feature if you regularly use a word processor, but with the increasing slant towards DTP that's creeping into most Amiga word processors, it's also likely you'll want to print the odd picture or graphic, maybe with a splash of colour along with your text. So what is the best method of getting a good quality printout of your text which will also do justice to any graphics or colour?

Ink jet technology is the solution. Ink jet printers produce near laser-quality results yet cost only slightly more than dot matrix equivalents. But they also have the capability to print in colour when needed.

Ink jet printers work on a simple principle. A tiny heating element heats up a bubble of ink, as it gets hotter the bubble expands and finally bursts, sending a spurgle of ink through a tube and finally onto the paper which forms a dot. The remaining ink bubble contracts, sucking more ink in to the vacuum left behind. The new ink is then heated, starting the process again. This process is duplicated with multiple heating elements, ink bubble containers and tubes making up a print head. Typically there are around 64 tubes (hence dots) in a print head. The more nozzles (and hence dots) the higher the resolution possible. Current ink jets achieve around 360 dpi (dots per inch). Different colour inks are used to produce multiple colour prints.

So far it sounds simple enough. However, there are several problems that manufacturers

Save money

You can save yourself money by refilling your old ink cartridges instead of buying new ones.

Although most manufacturers don't recommend it, several companies claim to offer refills that comply with manufacturer specifications.

Refilling inkjet cartridges can cut your costs considerably. A new ink jet cartridge costs around £20, depending upon the model. Refills on the other hand are available for under £10! Try Gray-Tronics on 0500 737 800 or Care Electronics on 01923 894 064.

have to deal with. One problem is that the process requires specific ink fluidity. If it's too thick it doesn't 'spurt' properly, too thin and it runs as it hits the paper. The ink container must be free of bubbles as this would wreck the ink flow. However, manufacturers have overcome these problems and ink/bubble jet technology is now very affordable.

Prices start from £200 for monochrome versions and £250 for colour models.

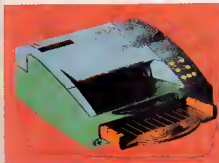
Graphics

The Amiga's capabilities for producing colour pictures are second to none, so it's not surprising that demand for good colour printers



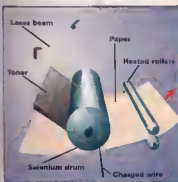
so high in the Amiga market.

You have two choices for printing your colour images, and if price is your primary concern you're actually in luck. There are loads of low cost colour printers available, starting



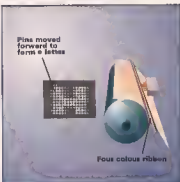
How printers work

Laser printers



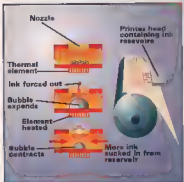
A laser beam inside the printer draws the image to be printed on the surface of a selenium drum. This drum has a surface of negatively charged particles. When the laser hits it the particles change to a positive charge. The toner only sticks to the positively exposed areas. Paper is passed by the drum and toner transfers to the paper, thus creating the image on the page. The paper is finally drawn through a heat source which fuses the toner. A wire then recharges the drum surface with a negative charge.

Dot matrix printers



A click, clack, clatter, clatter. Dot matrix printing is the oldest and simplest print technology. A print head made up of tiny pins moves left to right across the page and at the end of each line down to the next. To print each character selected pins are moved forward, creating the character's shape. The pins are pushed against the four-colour ribbon, which is in turn pushed against the paper creating an impression. Dot matrix printers are the only type of printer that can print on multi-part paper (invoices etc).

Bubble jet printers



A bubble jet printer works using a remarkably simple process. A tiny drop of ink is placed over an element and heated to around 400 degrees. As the ink gets hotter bubbles form eventually creating an ink bubble which finally escapes left of the page in a fraction of a second. As it escapes the ink expands through a tube to create and on to the paper. The expanding ink bubble creates a vacuum which sucks ink in to form a reservoir and start the process off all over again.

around £100. At the bottom end of the scale there are dot matrix models, at the other end (with prices of £250 and above) are ink jet devices.

Dot matrix technology will produce colour images but it tends to suffer badly from banding - having lines running either vertically or horizontally through the picture. This occurs where the print head moves from one character to the next and there's an overlap or gap between the characters. You'll also find that dot matrix technologies often produce prints that are too dark or too faint - although you can compensate for this by altering the original picture and increasing the brightness.

Desktop publishing

It's always been one of the more popular applications for the Amiga, coming in just behind word processing and graphics in our survey, yet the needs of DTP printer users differ

from these two previous types. For DTP work it's quality above all else and there's only one type of printer that delivers the best quality - a laser printer. With average resolutions of 300dpi, which can be improved upon with enhancement technology, and print speeds of at least four pages per minute laser printers have become the favourite printer for professional DTP users. Falling costs also ensure that they are growing in popularity amongst users on a tight budget.

Laser printers work in a similar fashion to photocopiers. A laser beam is fired at a mirror. The mirror's reflection targets the beam onto a drum, and by rotating the mirror the beam can be moved horizontally across the drum surface. The drum in turn rotates allowing the beam to traverse its entire surface, creating the image of the page on the drum surface. The drum unit itself is coated with a metal, onto which the image is scored by the laser

As the drum rotates it also goes past a trough of powdered ink, which sticks to the area marked out by the laser. The rotating drum unit then passes over the paper, transferring the ink to it as it goes. As a final step the paper sheet is then heated to fix the ink.

Laser printers with resolutions above the standard 300dpi are starting to become commonplace. In 1993 Ricoh introduced the LP1200 laser printer providing 400dpi, and other manufacturers (Lexmark, Hewlett-Packard etc) produce 600dpi models.

Paper types

Your choice of paper can make a lot of difference to the quality of your printouts. All printers work by applying ink to the paper surface and drying it in some form. Depending on the type of paper the ink will be absorbed into the paper to various degrees and dry at different speeds. If too much ink is absorbed the print will look faint, if it doesn't dry quickly enough it will run. In the case of ink jet printers better results can be obtained by using special paper, glossy surfaces being the obvious choice. An in-between solution is to use 'normal' paper, but higher quality than standard photocopier stock. CU Amiga Magazine experienced high quality prints when using Conqueror paper. Other named quality paper produced similarly good results.

Fortunately (or unfortunately) you do get what you pay for when choosing paper. Thick, good paper is expensive, but for jobs where quality is everything, the investment is worth it.

And there's more...

So there you have it. Your choice of printer depends upon your wallet and what you actually do with your Amiga. Over the next three pages you should find our guide to several of the more popular printers available and their relative merits helpful.

Ecological considerations

There was a time when printers could rightly be accused of being one of the most environmentally unfriendly computer peripherals. Indeed with the amount of toner and paper they get through they still do more harm than most other peripherals. But recently manufacturers have tried hard to reduce their harmful side effects. You may or may not take the 'green cause' into account when you are buying a printer but it's worth taking into consideration the efforts of various manufacturers as they can save you money and protect of mother earth as well.

For example, some Hewlett-Packard and Epson Stylus printers have power saving devices that shut down the engine, entering a standby mode, when not in use. The HP Laser's power consumption drops by 180 watts to just 5 watts when in this mode. Given that a laser printer is often on-line, but unused for long periods of time, this will save a lot in electricity bills!

Ink usage is also environmentally and financially costly, so saving the cartridges must be a good idea. Once again HP score points by recycling your used toner cartridges - they even pay the postage when you return used units to them. The printer also has a special EconoMode which uses up 50% less toner when printing. This is done by spacing out the dots, producing less dense coverage.



▲ Samsung SP-2417: Poor output, poor performance, but relatively cheap

DOT MATRIX PRINTERS

Dot matrix printers are a cheap and reliable method of outputting colour and black and white pages from your Amiga. The various 24-pin models here start from around £100.

Samsung SP-2417

One of the cheaper 24-pin models, the Samsung SP-2417 looks more sturdy than attractive. However, Samsung describe it as having a 'Life Style Design', even though we think it looks like any other dot matrix printer! We were disappointed with its print quality. Output of pictures was faint and suffered from an intrusive amount of banding and paper crimping. On the other hand the relative colour balance remained intact. Text fared better although it was a bit rough around the edges.

In the speed trials it also performed poorly although better than its 160cps draft and 53cps letter quality mode. Specifications would have you believe. It came in well behind both the Citizen and Seikosha models, and tied roughly equal to the Mannesmann Tally T2016. However, it should be remembered that this printer is cheap, and for your money you still get a 24-pin printer that is faster and gives notably better results than any old 9-pin models.

If you're looking for a low cost printer, and aren't too worried about quality the SP-2417 is worth a look.

Samsung SP-2417 ■ Tel: 01293 547788
■ Price: £129

Seikosha SL-96

Like Citizen, Seikosha have taken the trouble to support the Amiga and a printer driver is provided with the SL-96. Unfortunately Seikosha's driver isn't as good as Citizen's but it's still a lot better than having no driver at all as is the case with Mannesmann Tally.

The driver allows the Amiga to produce prints at the full resolution of the 24-pin SL-96, and get better colour output than would be possible with the Epson emulations supplied with Workbench.

In speed trials it produces a respectable but average 192 characters per second in draft mode, and a maximum of 140 cps in letter quality mode. It also has a 'super speed draft' mode capable of 240cps but we found the print quality when in this mode to be pretty poor.

But speed accounts for nothing if the quality isn't there. Here however, Seikosha need have no worries. The SL-96 produced the best prints of all the dot matrix models seen here.

Neither too faint or dark and with minimal banding it won our vote as the best all round budget printer.

Seikosha SL-96 ■ Tel: 0181 309 1111
■ Price: £149

Mannesmann Tally T2016

The T2016 is a good, low cost, monochrome, 9-pin printer. It's not capable of colour output but if you want a printer only for personal and general use, program listings and directory prints, it may be worth a look.

With just 9-pins you can't expect great quality outputs, but for the money it's OK. Prints suffer from banding and paper crimping but this is to be expected with the technology, and it's no worse than any other similarly priced model.

Comparing its output to that of other 9-pin models we've looked at in the past revealed slightly better than average character definition. Noise levels were the most off putting element of the T2016 though. The constant clanking and whirring of the print head gets a bit tedious after a while.

It's cheap and reliable and will be ideal for the those who just want a cheap way to print out text documents for personal use. If you want colour, or higher resolution look elsewhere, maybe the Samsung SP-2417 or the Seikosha SL-96, neither of which cost a lot more but offer slightly better quality output and colour.

Mannesmann Tally ■ Tel: 01734 768 711
■ Price: £109

Citizen ABC

Citizen are one of the few printer manufacturers who actually recognise and try to help Amiga owners use their printers by supplying Amiga drivers with the ABC. Citizen's drivers are a credit to the company. They provide easy control of the printer hardware and result in higher quality prints than can be obtained using the standard Epson® drivers.

As a low cost, general purpose printer the ABC is hard to beat. It's a 24-pin dot matrix model, with resolutions of up to 360x360. In speed trials it beat both its Samsung and Seikosha competitors, and held up to the claimed 192 characters per second.

Being dot matrix it's not going to produce brilliant print quality but it's still pretty respectable for home use. Text was OK although a little fuzzy, whilst colours were generally clearer than the Samsung also seen here.

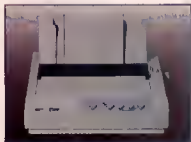
In general operation the ABC came out well. Its paper loading mechanism proved



BEST
BUDGET
BUY



▲ Seikosha SL-96, best all round budget printer



▲ Mannesmann Tally T2016: cheap, reliable monochrome printer



▲ Citizen ABC: Amiga drivers supplied, excellent for home use

Specification chart

Model/Specification	Price	Type	Colour or BW	Resolution	Speed	BuPer Sec
Citizen ABC	£189	D	Colour	360	192cps	8K
Seikosha SL-96	£149	D	Colour	360	192cps	15K
MT 2016	£109	D	BW	180	160cps	2K
Samsung SP-2417	£129	D	Colour	360	53 cps	14K
Star SJ-144	£249	U	Colour	360	140cps	21K
Canon BJ200e	£259	U	BW	360	3.5ppm	62K
MT 7040	£289	U	Colour	300	3ppm	120K
Epson Stylus	£299	U	Colour	720	240cps	50K
HP L44	£274	L	BW	300	4ppm	1Mb
MT 7900e	£386	L	BW	300	4ppm	5.12K

* Type: L=Letter; D=Dot matrix; U=Inkjet.
 Resolution: Maximum resolution without enhancement.
 Speed: Characters per second for dot matrix models at 12dpi, pages per minute for some inkjets and all lasers.

Spurting Canons



ink jet technology was originally created by Canon, with the original patent for the concept recorded in 1977. Canon introduced the

first printer (the BJ-80) in 1985, although they demonstrated the technology in 1981.

The technology was discovered when a researcher accidentally touched a hypodermic syringe full of ink with a soldering iron, and the ink spurting from the syringe.

faultless during the test period and as a result we experienced very few paper handling problems.

The ABC printer is a good, reliable printer which shouldn't disappoint for home use. Best of all it can now be picked up for under £150 which is definitely excellent value for money.

Citizen ABC ■ Tel 0181 309 1111

■ Price: £189 - but check advertisers in CU Amiga Magazine for lower prices.

INK JET PRINTERS

For affordable colour printing ink jet technology takes some beating.

Star SJ-144

This model from Star was one of the most compact and stylish of all the printers we reviewed. It was also one of our favourites. Everything about the Star seems well thought out and implemented.

In every respect the SJ-144 stood out from the rest. From its design, the way it stands vertically occupying very little desk space, to its paper loading mechanism (not a single jam in the entire test period) to its print quality which was wonderfully crisp, we could hardly fault it.

Print quality was absolutely superb too, hiding its only average 360x360 resolution. Colours were vivid and consistent and didn't fade at all across large areas while text came out gloriously sharp.

As a printer for handling both text and graphics the Star SJ-144 is hard to beat, and at just £249 it's exceptional value too.

Star SJ-144 ■ Tel: 01494 471111

■ Price: £249

Canon BJ-200ex

This printer isn't a colour model and is really only included here for reference and for users looking for a low cost alternative to laser printers for black and white DTP type work.

Although the printer has a standard ink jet resolution of 360 x 360 dpi, it features 'smoothing technology' that enhances the print resolution, making its prints look like 720 x 360 dpi. In this mode its output was better than its nominal 360x360, but not as good as that from the Epson Stylus.

For users who want good quality mono

prints for DTP use, but are on a tight budget, the BJ-200ex is a safe route to follow.

Although slower than a laser printer its quality will be more than good enough for most users looking for above average output.

There are Amiga drivers available to support the printer, although these aren't provided with it. You'll need to contact Canon.

Canon BJ-200ex ■ Tel: 0121 880 8062

■ Price: £259

Mannesmann Tally T7040

Compared to the Star and Canon printers, the T7040 looks more like a relic from the 80s than a home printer of the 90s. The T7040 is ugly, with flimsy bits of plastic sticking out at odd angles. If the Star and Canon printers were supermodels, this must be Nora Batty.

This is all rather unfortunate because in other respects it's a good, solid workhorse that produces perfectly acceptable results. Although it only supports a resolution of 300x300dpi printed matter is clear and clean. The colours could be more vibrant, but in general there are no major gripes. The final verdict? A good printer spoiled by poor design and finish.

Canon BJ-200ex ■ Tel: 0121 880 8062

■ Price: £259

Epson Stylus

At approximately £559 the Stylus is a very expensive ink jet, so what does it offer to justify the rather large hole it puts in your pocket? The answer can be found from the first print you produce... quality!

Whilst other ink jet printers spurt out 360 dots per inch, the Stylus pumps out an astonishing 720dpi. This is a true 720dpi and is not achieved by enhancing a 360dpi mechanism, and as such gives higher quality prints.

However, it's worth pointing out that you'll need to get the correct printer driver for your Amiga to print at this resolution and you'll also need a higher quality paper than normal. See the 'Print it with JAM' panel on the next page for driver details. Custom paper is needed because normal paper stock can't hold the ink, with individual dots 'bleeding' into other dots. Once you've got the right driver and paper it produces wonderfully detailed prints.

Another feature of the Stylus is that it uses a custom print head. On other ink jets when the cartridge runs out you'll need to replace the entire print head.

With Stylus technology, however, you merely replace the ink well - new ones clip onto the top of the printing head. This system also allows you to have two ink cartridges, one for black and one for colour.

One thing we didn't like about this printer however was the start up time and paper loading system. It seemed to take an inordinate amount of time to get going, with lots of odious noises and clicks coming from it for several minutes before it was ready for action. The paper feed system also seemed to take some time before it would print.

Definitely one of the best printers in this round-up, the Stylus is highly recommended.

Epson Stylus ■ Tel: 01442 61144

■ Price: £559

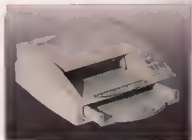
BEST OVERALL BUY



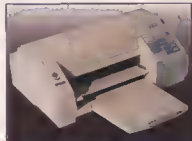
▲ Star SJ-144: compact and stylish, superb print quality (and in fact!)



▲ Canon BJ-200ex: good quality, low cost monochrome printer.



▲ Mannesmann Tally T7040: the Nora Batty of printers!



▲ Epson Stylus: high quality, high price!



▲ Hewlett-Packard LaserJet 4L, good for DTP text and smooth.



▲ Mannesmann Tally T9005, minimal memory gives output and highly priced.

Print with JAM

If you've got a Canon BJ, Citizen 240c, Epson Stylus, HP, Star LC-24 or Panasonic KX-P1124 printer, do yourself a favour and get Studio II Professional. This is a snappy printer driver utility written by Wolf Faust that will significantly improve the quality of your printouts. We covered the latest version of this program last month in the April 1995 issue.

In essence it replaces the standard Amiga drivers for certain printers with new custom written versions that take advantage of the specific advantages of each printer. In addition the software allows you to change colour values prior to printing to compensate for different ink qualities and the like.

At £49.95 it's expensive but worth it if you want to get the most out of your printer. It's available from JAM on 0895 274449.

LASER PRINTERS

The crème de la crème of printers. Laser based printers offer superb quality prints but at a price.

Hewlett Packard LaserJet 4L

The 4L is a great little printer for desktop publishing and other monochrome print jobs its compact size, styling and design make it almost perfect to sit alongside the Amiga.

In use it's impressive. Pumping out a reasonable four pages per minute it's no slow coach and with a resolution of 300dpi it'll give you the kind of print quality you could only previously have dreamed about!

Fonts and structured graphics come out wonderfully clear and detailed. HP's 'Resolution Enhancement Technology' ensuring that text, curves and diagonal lines are smooth and jaggie free.

The biggest downer with this printer is that there are no controls on the device itself – apart from a single reset/activate button. To print from it you can use a standard LaserJet driver, or PCL5 driver (if your DTP package has one). But there's no way to change its internal settings.

Even without the PD driver it's a good printer and ideal as a DTP workhorse. As an accompaniment to your word processor it's wonderful, although you might find the lack of colour a problem.

HP LaserJet 4L ■ Tel: 01344 360000

■ Price: £574

Mannesmann Tally T9005

Here's a printer that looks, acts and works like a traditional laser printer. We ran page after

Printing from your Workbench



Although there's no software supplied with the HP 4L to let you print from your Amiga there is a solution and it's cheap!

A PD utility called 'HP' allows you to print from Workbench. This is available on Amiga sites, on the various Amiga CD-ROMs or from other PD suppliers. This allows the resolution enhancement and EconoModes to be turned off amongst other things.

page through it and experienced very few problems with the printing process.

Sadly the actual print quality and specifications let down this good start. Whilst a bare 300dpi laser will produce notably better output than any other type of printer seen over these pages, it's now pretty poor compared to other laser printers available. With no resolution enhancement its output was significantly poorer than that from the HP model, and at times was below that of the Epson Stylus and Canon BJ200ex ink jet printers.

What really let the printer down however, was the minimal 512k of memory it comes with. This isn't enough to print a full page of graphics, or a page of large bitmaps and fonts – as such it's really a bit useless for DTP work unless you upgrade.

These two facts, combined with a relatively high price, prevent me from recommending the T9005. If the price was lower and it had 1Mb of RAM it would be okay, but as it stands it's expensive and under specified.

Mannesmann Tally T9005 ■ Tel: 01734 788 711 ■ Price: £586

Print Quality - Check it out

To test the printers we hooked them up to a standard Amiga 1200 and printed the sample files using Wolf Faust's Studio II driver. This demonstrates the various printer capabilities, rather than the limitations of the Workbench drivers.



▲ Samsung SP 2417 Prints from the SP-2417 seemed a bit flat.



▲ Samsung SP 2417 Prints from the SP-2417 seemed a bit flat.



▲ HP 2417 Prints from the HP-2417 seemed a bit flat.



▲ Epson Stylus Prints from the Epson Stylus seemed a bit flat.



▲ HP 2417 Prints from the HP-2417 seemed a bit flat.



▲ Canon BJ-240c Prints from the BJ-240c seemed a bit flat.



▲ HP 2417 Prints from the HP-2417 seemed a bit flat.



▲ Epson Stylus Prints from the Epson Stylus seemed a bit flat.



▲ HP 2417 Prints from the HP-2417 seemed a bit flat.



▲ HP 2417 Prints from the HP-2417 seemed a bit flat.



Fitting a Hard

Save some money and speed up your Amiga by a factor of ten: John Kennady takes a comprehensive look at adding a 3.5" hard drive to the A1200 and A600.

Ask an Amiga owner who has just got a new hard drive to go back to floppies, and they'll laugh at you. It's hard to describe just what a difference a hard disk makes to your system. Not only is it staggeringly faster than a floppy only system, but it allows a huge degree of customisation and convenience. Imagine never having to swap disks when printing from word processing or loading a paint program. The only disadvantage to adding a hard drive is that they are not cheap. You will need to be prepared to spend more than £100 probably £200 or more for a good drive. However, the good news is that prices of 3.5" drives (as used in PCs and the Amiga 4000) have never been lower. It's a perfect time to add a hard drive to your system, so long as you know how.

The options

Selecting a hard drive for an Amiga A1200 or A600 can be a tricky business. Both these machines include IDE interfaces and have the

necessary firmware built-in to work with the hard drive. They even have LEDs which are all ready to light up when a hard drive is accessed.

Unfortunately, the Amiga is rather a small computer and space considerations mean that the designers concentrated on making it possible to fit 2.5" hard drives. Inside the case is a special drive cradle which will hold the tiny 2.5" mechanisms securely in place. This would be fine, and indeed many Amiga owners are very happy with their 2.5" drives. The problem with 2.5" drives is that they are expensive, only available in small capacities and not very fast.

By comparison, the larger 3.5" drives are now extremely cheap, available in sizes of over 1Gb and are very speedy. The price of 3.5" hard drives has fallen dramatically and you can now buy a bare 428Mb drive for about £120 excluding VAT and delivery. Of course, this still leaves the problem of how to connect the larger drive to the Amiga. There are several problems.

1 Physical space. The A1200 and A600 are not large machines, and there is a limit to the amount of free space available.

2 IDE Cables. The IDE interface inside the Amiga is designed for 2.5" drives which have cables of different dimensions to 3.5" drives. All the same signals are present, but in incompatible connectors.

3 Power. The 2.5" drives take a single 5 volt level from the IDE interface. They are designed to work in portable PCs where power is at a minimum. By comparison, the 3.5" drives need two connectors, one of 5 volts and one of 12 volts, and draws more power. The internal IDE interface cannot supply 12 volts.

Housing shortage

The problem of space means that a tempting option is to house the drive outside the Amiga in an external box. There is nothing wrong with doing this, and I know of many Amiga users to who their hard drives in this way. If a simple plastic box is all that is required, Maplin Electronic Supplies (Tel: 01702 554161) have a suitable one available for £6.49 (the Project Box D-014). Alternatively, the many SCSI drive housings available will also provide a good home, many of which include a Power Supply Unit as standard, and so will also provide a method of powering the drive.

The interface cables can then be led into the Amiga case, either by cutting a hole in the side or filing away some of the plastic lip. Great care must be taken not to overtighten the case and sever the cable.

Step-by-step procedure

Here is how an A1200 can be fitted with a 3.5" drive in full technical colour. This operation was carried out using a cable kit supplied by Eyetech Group Limited, and a Seagate ST3491A 428Mb FA6T IDE drive. If these instructions do not seem comprehensive enough for you,

contact a company such as Eyetech tel: 0642 713185 who provide extremely detailed notes with their wiring kit.

During this installation it was decided to remove the metal shielding totally. The Eyetech instructions include details on how to mount the

drive without having to do this. Before you start the job of installing the drive you'll need a good, well lit desk and some screw-drivers and pliers. An earthing strip is a very good idea. You'll also need tin-snips and a drill depending on how you decide to mount the drive internally.



1 OPEN UP
Place the computer upside down on a protected surface, and remove the five screws which keep the lid on. These screws may be longer than others so make sure you make a note of which goes where.



2 GET THE LID OFF
Place the Amiga unit and leave the lid off gently. It may not sit quite flat at the moment, so leave it off with a blunt edge of a screwdriver. Notice the drive cradle for the 2.5" disk drive - you won't be needing that anymore.



3 BYE, BYE LEADS.
Disconnect the floppy disk drive lead. If you are removing the shielding as in this case, remove the keyboard ribbon cable and LED strip leads as well. Again, make a note so as to check orientation.

Drive

However, it is possible fit the large drives inside the A1200 case. I've heard of drives being fitted into an A600, but I have never attempted it. If you want to fit a drive internally, it must be a 'Low Profile' type drive, and you must be prepared to make some alterations inside the case.

There are two options. The first is to remove the metal shielding covering the Amiga circuit board and stow the drive away in the space under the keyboard. The problems associated with this procedure are as follows:

- 1 It's very easy to cut yourself badly when removing the metal shielding
- 2 The Amiga keyboard is connected to the motherboard via a small ribbon cable. The cable is very short and care needs to be taken fitting the drive around it
- 3 The drive needs to be insulated to make sure it doesn't touch the motherboard. If it did, it could short circuit both the drive and the motherboard causing damage
- 4 The shielding cannot be replaced. This means the Amiga is now in breach of FCC regulations, which means very little except you might notice some radio interference

Sometimes, if the drive is extra small, it is possible to remove only the central portion of the internal shielding, and still have room to slide the hard drive under the keyboard.

The second procedure is slightly more tricky (believe it or not) but provides a much more secure way of fitting the drive. One fixing rail of the hard drive is removed, and a small portion of the internal shielding is cut away with tin snips. Two holes are drilled at the very back of the Amiga's plastic casing, and two screws inserted to hold the drive in place. With a piece of plastic shielding, this method provides a very stable and reliable way of housing the hard drive.

Cables and power

The cables themselves are the next problem, and there is no easy solution. The keen DIY fan will buy two cables, one for 2.5" drives and one for 3.5" drives, cut off the spare connectors and solder the wires together.

Alternatively it's possible to re-press the IDC style 3.5" connector onto the 2.5" cable. Both are very tedious and error prone procedures and I cannot recommend them. There are 40

Warnings

Neither CU Amiga nor the author can take any responsibility if you damage yourself, your Amiga or your hard drive by attempting these procedures. You must carry them out at your own risk.

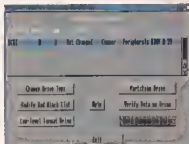
Warranty

If your Amiga has any warranty on it, as soon as you open the case, the warranty expires.

wires to connect, and life is too short to waste on fiddly things like this.

A much better approach is to buy a set of cables already made up. Several Amiga advertisers sell cables, and the price is not much more than if you had bought the individual components and made them up yourself.

These cable sets also provide the necessary power connectors. As mentioned, the



A. The HLLinux program will try to find any connected drives. If the drive is new, it will probably come up as 'unknown'.



4 OFF IT COMES...

Remove the shielding. This means you to hold up the metal case held it in place. Be careful, as the edges are extremely sharp. I can show you the scars of my life. Please don't do, you have a weak stomach - Ed



5 DRILLING HOLES

The Flycatcher (see instructions on how to locate the drive using screws. It is therefore necessary to drill two holes in the back of the case. The instructions include a guide sheet for getting these in the right place.



6 CONNECTING THE CABLE

Now the cables. The Flycatcher IDC connector is an all-in-one unit. Others use a small PCB to link the two sizes of cable together. The Red Fox as the cable always goes to the 'Type 1' marked on the internal board even if it means doubling the cable over.



7 IN GOES THE DRIVE.

With a sheet of insulating plastic underneath, the drive can be placed over the drilled holes. The drive fits in top of the casing; the next round was out of mounting side to place it to fit properly. Now is a good time to make sure the drive's jumpers are set to suit master drive.



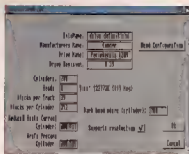
8 FROM BELOW...

Now we start to push the top up. The screws which hold the drive are placed and inserted. The necessary power cables can now be connected (using a supplied adapter which harness power from the floppy disk) and the keyboard and LED array leads reconnected.



9 SNAP

Below the lid is replaced, and strengthening plastic sheet must be snapped off to allow a tight fit. The case drive then is viewed up and the screws replaced. Operating completed. You can see the great extent of an Amiga exception with a hard drive and you did it all yourself.



A. Setting the program to ask the drive what sort it is will save a lot of typing and errors.

Internal IDE interface only contains 5 volts, and 3.5" drives require 5 and 12 volts. The easiest location from which to 'borrow' the extra voltage supply is the floppy drive, which uses both currents. Using a specially adapted connector it is possible to connect both the floppy and hard drive power cables to the Amiga motherboard. Both the floppy and hard drives will work perfectly after this procedure.

With the drive housed, cabled-up and powered, it's only then a matter of peeping the drive and installing the AmigaDOS Workbench onto it.

Static

Static electricity kills chips. When poking around inside an Amiga with the lid off, you must make sure you aren't going to destroy the circuits inside. If possible, wear a proper earthing strap (available from Maplins) or a DIY one made from a length of wire wrapped around your wrist and connected to a radiator or water tap.

Power

The standard Amiga power supply brick is not an infinite source of energy: there are limits. If you have a memory expansion and some bits and pieces such as sound samplers you shouldn't have any problems when you add the hard drive to the load.

However, if you have a lot of extra kit hanging off the various ports (such as an accelerator, a CD-ROM drive taking power from the Amiga and external floppy drives) all going at once, you might experience problems.

One way to check is to discover the power requirements for all the extra kit you have and compare them with the rating of the power supply unit (it's on the underneath of the box). More powerful power supply units are available from several distributors.

Cable lengths

The IDE interface is not intended for operating over vast distances: the cable to an internal 2.5" drive would be about 10cm maximum. Unlike a typical IBM-PC IDE interface, or that in the Amiga A4000, the A1200 and A600 connectors are not buffered, which makes them even more prone to errors with long cables. Try to keep all lengths to 30cm or less to avoid problems.

Spurious errors

IDE is a standard, but some drives seem to be more standard than others. A good drive, such

as all modern Seagate and Connor drives should present no problems. The drive should auto-mount following booting from Workbench stored on it from power-up, not just from a warm reset. If you switch the Amiga on and hold down both mouse buttons, the drive should be on the list of available devices.

Some drives don't seem to like doing this, although there are a few tricks. First of all, if you are using a Connor drive try altering any jumper settings which specify the drive 'CAM' setting. Secondly, try disconnecting Pin 1 from the IDE interface. This can be done by cutting the wire on the cable or bending the pin.

Some drives cause the Amiga to crash when copying large blocks of data, or simply have read/write errors. Sometimes some hard drive-installed games don't run. If this is the case, use the software for 'prepping' (preparing to operate) the drive to alter the MaxTransfer Speed, save the settings, reboot and try again.

These warnings are meant to protect you, not scare you off. I have to point out that over a year ago I built an interface myself from scratch using two ribbon cables, a piece of Veroboard and a lot of soldering. This cable has been driving a Seagate 80Mb 3.5" drive since then very happily - it did until I dropped the drive onto a concrete floor and broke it. It has been replaced with a 120Mb drive which is still working fine.

Software

Unless you bought your drive from an Amiga dealer, before it can be used it needs to be 'prepped'. In the old days of SCSI drives, it was necessary to Low Level Format a disk drive. Because of the way in which IDE drives work, you should NEVER low level format an IDE drive. If you do, you could damage it permanently. A normal AmigaDOS format as though formatting a floppy disk is fine, but ignore any Low Level Formatting options in special hard drive software.

Although the AmigaOS is under the impression that the drives you added are actually SCSI (because file operating system uses the SCSI device to control them), the drives are and remain IDE devices. To repeat: do NOT low level format them.

Pepping the drives requires special software: such as Commodore's HDToolBox or RDPrep. Your local Public Domain library or BBS should be able to help you out.

When run, the pepping software should detect a hard drive is present, although it will probably refer to it as of 'unknown' type. There will be a 'Define type' option, and when you click on this you should be able to select an option to read the type of drive directly from the drive itself.

You will then need to partition the drive. This allows the drive to be split into two or more separate disk drives - or at least it appears that way to the Amiga. Typically you make the first partition about 10 to 20Mb and call it Workbench. Make sure that 'Bootable' is set. The second partition is usually called Work and it takes up the rest of the space on the drive.

Save the changes to continue, but you also need to format the drives. The pepping program will have decided on the name for the

Eyetech's Cables

The cables used in the above procedure came from the Eyetech Group Limited. They can provide the cables by themselves (for about £16) or as part of a complete kit including earthing straps, full instructions and a suitably prepped and adjusted hard drive. For example, a 545Mb drive and all the kit required to kit it is available for £224 - a remarkably good value for money.

The instructions which comes with the drive are extremely detailed, and are fully illustrated. The black and white images here are taken from the manual and illustrate various aspects of the procedure.

Eyetech are also extremely helpful, and if you are considering installing a drive into your machine give them a call. If you chicken out, they can fit a drive for you for an additional £30 fee.

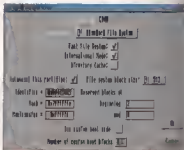
Eyetech Group Limited, tel: 0642 763195 email: eyetech@cx.computelink.co.uk Many thanks to Alan at Eyetech for making this feature possible, and Chris Johnston for the use of his Amiga and arms.

disks (which you can change if you like) so make a note of it. Later pretend for sake of example that the partitions are called 'CHD0' and 'CHD1'. From the Shell window, enter the following lines:

```
format drive chd0: name Workbench FFS
QUICK
```

```
format drive chd1: name Work FFS
QUICK NOLOGS
```

This will prepare the drives. Reboot the machine with the standard Workbench disk on floppy disk and when Workbench loads you should see the new disk icons. Select all the files on your floppy (including the hidden one - using 'Show All Files' and 'Select All' and drag them over to the Workbench partition. Now reboot with no disk in the floppy drive, and you should see the Amiga boot faster than you thought possible. ■



A. If the drive has a lot of errors, click on the 'Full System' button to go to this screen. After the MacBreaker by ensuring the first 'P' and you a disk makes a difference.

ANY 3 FOR £10.00

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Sister	Sweeney (First
Si ducha Comandante	inside)
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Arnold	Lubbock
Beetle	Pediatrics
Best Jockey	Art of C...
Daily Double Horse	Don't U'ppin' Days
Racing	Ghosts, Warrior
Shrimps 101	Impassioned
Sixty SOS's Cops	It's a Wonderful
Ten Commandments	World Champ Boving
Blackie Berry House	Manager
Jewels Road 7	My Best Friend
Space Cruise	Pain & Dist
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THE COMPLETE RACE
NIGEL MANSSELL A1200/A500

United Children	Overcome	Max UTD	Seven Gates of
Bay Windows	Pl. Souder	Miss Access	Amoris
Stitching	Flowers	Kagat Mitsun	
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ScreenScene



There is a new phenomena afflicting games publishers. It's called megalomania and it's a state of mind that results from uncertainty about the Amiga's

future. "Will you bring this game out for the Amiga?" We ask. "Maybe". Some games are totally out of reach of the Amiga, 64-bit wonders like Sony's Ridge Racer for instance, but there's no reason why publishers can't port a PC game - even a CD-ROM title, or develop it on Amiga and port it to PC. The amount of CD32s and CD-ROM drives for A1200s should justify this, and it's certainly worked in the past - Simon Tharwaite's Sorcerer was originally an Amiga developed title which is now more popular on PC. If you own a CD-ROM drive and you want to see games for it then write to me at the usual address and I'll voice your opinions. Otherwise write to your favourite software house. 'Maybe' we can get things rolling.



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- We report from Europe's biggest games trade show. Giants were formed, new formats were shown off and the Amiga didn't do too bad either.

ECTS SPRING 1995



Spring is traditionally the time of year when new software titles multiply, when embryonic games first see the light of day. Did ECTS '95 follow suit? Let's see ...

Even though March's European Computer Trade Show was dominated by the new 64-bit CD machines, the Amiga and speculation about its future refused to go away. The rival Commodore bid, from German PC manufacturer and distributor Escom, was front page news for the trade paper *Computer Trade Weekly*, and Amigas were present on rather a lot of stands.

Although David Pleasance was quick to dismiss the Escom bid, the show was buzzing with talk of new investment, PC cards for big box Amigas and Amiga cards for PCs. The latter idea seemed to have gripped quite a lot of people, the reasoning being that a lot of people currently using PCs would prefer to use an Amiga some of the time and may already have software for it. Also there is still a large amount of quality Amiga games available at a lower cost than current PC titles, including platformers and football titles which have never translated well on to the PC.

Big fish

The show was full of big fish who had swallowed little fish: Psygnosis (who, in their time were big fish) could be found lurking under the massive columns of the Sony stand, while Renegade

were, for the first time, on the Warner Interactive Entertainment stand after being bought lock, stock and barrel by the multinational giant last year. Both Sensible Software and The Bitmaps have signed up for long term deals with Renegade/Warner Interactive Entertainment, but unfortunately *Sense Golf* (still to be distributed through Virgin, not Warner) and *The Chaos Engine 2* are the last products which these two developers are planning for the Amiga. Across the aisle from Warner Interactive Entertainment was Time Warner Interactive. If only Warner Brothers Interactive Entertainment had been there it would have completed the two of competing companies all eventually owned by the massive entertainment multinational Time Warner. Sounds confusing? Let me explain.

Time Warner has many strings to its bow. It's into publishing, films, music and cable TV not working and each of these is a separately managed giant entity. The three different "interactives" are offshoots of three of these divisions. Time Warner Interactive, the oldest, came to the fore last year by distributing and marketing *Rescue Of The Rabbits*. This year's bigger from them (in fact the only Amiga game they are producing in 1995) should be *Primal Rage*

Warner Interactive Entertainment, now proprietors of Renegade, is part of the Warner Music group and will be releasing *Chaos Engine 2*, *ViroCop* and *Flight Of The Amazon Queen* before the Summer. They also haven't ruled out releases later on in the year if this night software comes their way. Warner Brothers Interactive Entertainment is part of the movie wing of the company but is highly unlikely to produce anything for the Amiga.

Team work

As reported in this month's news Team 17 have tied up a deal with Ocean Software to exclusively market and distribute their games

on a worldwide basis and on all platforms. This deal ensures that the Team's biggest release of the year, the Amiga developed *Warms*, gets maximum publicity. And judging from the response of jealous rivals at the show it looks like being a massive hit - it really could be a *Lemmings*-esque success story. In fact, so pleased were Team 17 with all this news that they were impossible to get hold of - unless you wanted a game of *Warms* that is. That was the magic word. If you said it loudly enough members of the Wakefield based development house would suddenly appear.

Impressive new business like PowerHouse sees you driving lots of cash-making power companies.



all four bars in Earls Court ballroom, eager to show off skills with the bazooka, blow and guided missile. I could just like to publicly reveal that Martyn [Creative Director of Team 17] is an unscrupulous cheat. I had of his worms nailed - dead gone, but I can now exclusively reveal that he told me to "the bungle, go on" I did, I edged all the top of a cliff and ended on a mine which blew my up leaving his unharmed. Changes in the game since previewed it were the presence of mines, ammo drops and speech samples. The new set for multi-format release is September and it's hoped to eventually reach Amiga, PC, Playstation, Mega Drive, Saturn, S. Jaguar and others.

Ocean had a massive presence with their own bar and series of meeting rooms. In fact all were missing was Amiga software, but with a healthy budget release schedule lined up through their Hit Squad label and Team 17 deal in the bag they're not exactly turning their backs on the market.

Impressive

pressions had a, well, impressive line up of games for the Amiga, all due for release between now and September. We were being touted, three of which we've already reported on, the versions we saw on PC were all but finished, while the Amiga parts of two of them are barely a month or so away. These were *Ultimate Soccer Manager*, *High Seas Trader* and *Frontlines*. Impressions were also demonstrating *PowerHouse*, a new business simulation where you run the *Adrenaline Factor* - *Mega's* *Cyberpunk* manager/blast an op.

power companies and get paid a lot of money. Hmmm, fantasy mimics reality. The first of these games to be released, *Ultimate Soccer Manager*, on A1200 only was actually 95% ready on Amiga when we saw it and we'll review it next month.

Ascon, the German developer responsible for the *On The Ball* series was also at ECTS with a new management sim, this time based around the world of Formula 1 racing. *Titled Pole Position*, it will feature the current circuit of race tracks, all the relevant financial and management issues, technology, rules, the press and temperamental drivers, some of whom may have Groucho Marx moustaches and large eyebrows.

Black Legend were showing an impressive line up of product at their stand, from various development houses. These included racing game *Leading Lap*, *Doom* clone *Evil's Doom*, an indoor version of *Football Glory*, an isometric RPG/shoot 'em up titled *Tower Of Souls* and the AGA version of *Turbo Trix*.

There was good news for the CD32 too with Mirage indicating that they intend to produce versions of *Rise 2: Resurrection*, the follow up to *ROTR* with a new story line, more speed, more moves (thankfully) and more other things too numerous to mention or even hope for until we actually see them in operation. They are also hoping to release *The Adrenaline Factor*, which is described in their press blurb as being an isometric 'Cyberpunk strategy/blast 'em up'.

A CD32 version of *Pinball Illusions* is on its way from 21st Century and *Pinball Mania*, an all new all Amiga pinball game was touted as being possible.

Legends is the next big title



Amiga: Get ready for 95% big game - *Tina Warner's* *Pinball Legend*
Rage: *Ultimate* 1 racing management in *Pole Position*.

from Krisalis, who this year wisely and popularly decided to get a sound proof, air conditioned meeting room (ECTS is noisier than a row with Spanish fishermen in a police siren testing factory), for both CD32 and A1200, and this *Zelda*-like game has positively exploded. The demo we previewed last year inhabited four disks, but the release version will have at least eight, the result of protracted development and improved graphics. Krisalis didn't rule out further releases this year but like many other software houses they are looking for outside development and talent rather than developing Amiga software in-house. They are currently evaluating products both from the UK and abroad.

Development

This attitude seemed to be the theme of the show. Even Team 17 were making noises about halting in-house development of Amiga games now that they've entered the big bad money-spinning world of true multiple platform



development. However, they haven't forgotten that what could possibly become their biggest selling game yet, *Worms*, was originally developed by an independent (and soon to be very rich) Amiga programmer. If you reckon you have a top game in you, then contact software houses like Krisalis, Team 17 or Black Legend. Despite all the hype of the latest consoles the ECTS showed that there is still interest and money in the Amiga and a strong demand for Amiga game designers, artists and programmers. ■



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Brutal: Paws of Fury

Due for release: June ■ Publisher: Gametek © 0753 553 445



▲ Everybody was long in flight! at the very good.

With any new or reborn genre, a trend of follow-ups always seems to follow. Once you "have" your 'serious' contender, such as the arcade licence that starts everything off, you inevitably get the dozen or so copycat titles, that try to emulate the look and theme of the engine generally quite poorly. And then come the versions with the slightly altered plotlines. Finally, and usually the one worth waiting for, comes the cute variant. See for yourself if you don't believe me - Hermes becomes R-Type which becomes *Disposable Hero* before ending up as *Apadya Way Of The Exploding Fist* went through a variety of different guises before

turning into the rabby Yosagi Yojimbo Samurai Warrior.

Flavour of the month

Take a look at the games that have been causing a stir in the last twelve months, and you'll see that current flavour of the month is the beat-em-up. *Mortal Kombat* 1 and 2, *Super Streetfighter 2* with added turbo, combo and a whole line of other extensions with the letter 'o' on the end, not forgetting *Dangerous Streets*, *Body Blows* - the list goes on and on. A whole bunch of bloodthirsty combat titles where the kicks hurt, punches land with a solid smack and the last one standing is the

Forget your Mortal Kombat, and Streetfighting is for wimps. There's only one way to kick some serious bottom, and that's the furry way.



one with the busted knuckles.

Brutal is something quite different, although the onus is still on combat. Like any other beat em up, you can select your character and then battle your way through a selection of opponents, with an aim of outwitting them one by one in a ring of combat, until you eventually meet the grand master in the closing chapters of the game.

Unlike most beat em ups, however, there is more of a reason to beat each opponent than merely reaching the next level of the game. Gametek are including what they call the Belt System, which allows you to progress the

abilities of the character you are controlling. The way it works is quite simple. When you start on the first level, your on-screen persona is quite limited in the number of moves he or she can actually perform, basic punches and kicks essentially. As you work them through the levels of the game, they pick up moves and new techniques, improving their chances of success considerably while giving the player the chance to master the controls of their chosen hero, without all that hassle of learning how to spin the joystick like a windmill at precisely the right speed just to perform a simple fireball. Naturally the computer opponents will progress at the same speed, so the combat doesn't actually get any easier just more intricate and involved.

Harmless fun

Gametek are adamant that this game will be suitable for all ages - something that parents and other moral bodies have been



▲ Look what a graceful smack to the gah!



▲ By they're a fluffy looking lot.

Stars of the show

There are no less than ten different characters to select, all of which carry different philosophies and very different styles of fighting. What's more, each of the characters has been designed to suit different types of player. Here's a little rundown of the kind of person you have to be to fight with these guys:

KUNG FU BUNNY



Style: Relax and Paw

The sort of person who chooses Kung Fu Bunny is kind and considerate. Nothing will give them greater pleasure than seeing how they have helped another succeed. However, they will have problems when it comes to making decisions and sticking to them.

TAI CHEETAH



Style: Tai Chi Chuan

Devotion seems to be the name of the game if you want the hand of the Cheeta. Clinical is another. Rock solid with your friends, yet cold and impassive towards the enemy, you are modest, happy to hold your ground rather than rush towards goals and 'success'.

KENDO COYOTE



Style: Kenjutsu

To take control of Kendo, you need to be an out and out winner - the sort of person who won't let anything stand in their way. All setbacks get brushed aside as you move ever forward, ever confident at times and reckless amongst other things.

RHEI RAT



Style: Thai Boxing

Rats are generally affectionate creatures, but Rhei Rat is something totally different. You have no tolerance for the people you class as fools. You have trouble making friends, as they always seem to embarrass you with their ignorance.



▲ Get your hands off my back.

worried about since the dawn of computers. By using professional cartoon animators to actually create the graphics for all of the characters, the game has taken on a decidedly unrealistic look, leaving behind the blood and gore of *Mortal Kombat 2* and replacing it with Tom and Jerry cartoon action, where the player's body seems to stretch and bend against all laws of physics and biology, giving a

look and feel that is every bit as effective as *Streetfighter 2*, but far more humorous and therefore pretty harmless.

One of the neat touches is the instant replay feature. If you are over lucky enough to see Nintendo Magazine's Gary Harrod play *Streetfighter 2*, you'll discover that a beat, um up, when played properly, is a lot more than just hammering the fire button and



▲ A lot of lightning always manages to stick.

hoping to club the enemy. When well choreographed, and played between evenly matched players, it can be an exciting thing to watch, and the instant replay facility 'captures' the entire match. This allows you to watch the whole thing from the start, frame by frame if you wish, as a means to gloat at your opponent after you've given them a right royal hammering.

Party!

This sort of game is best played with a group of friends, and so the game includes a full eight player tournament facility, where

you and up to seven of your friends can play at once as part of a league.

But what happens when you can't get that many people together in one room, you may ask. After all, it's all very well having this option in there, but what if you have just moved to the Outer Hebrides, or somewhere equally as remote like Shepherd's Bush, and you can't get anywhere near your friends? This is where support for the PC Magic AT&T modem device comes in handy. This little phone connection for your machine allows players from anywhere to link into your game and join in, rather like a modem link.

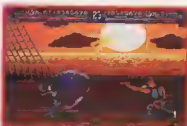
The game is nearing completion as you read this, and will be available in the shops from June on Amiga and Amiga A1200, priced at £29.99.

We should have a full review next issue, so until then, watch this space. ■

Tooey Dillon



▲ Nice one - right in the gut.



▲ Too-ho-hoohy crazy legs ahoy



▲ Looks like someone's doing a bit of TM.

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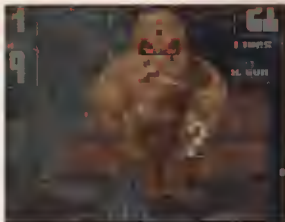
Fears

Due for release: Summer/autumn Publisher: TBA

It's *Doom* - almost! Yes, you've heard that before, but this time we really have found a top notch *Doom* clone, and it looks brilliant! *Fears* is a proof that the Amiga still has some of the most talented coders and developers in the world. Bomb Software have been beavering away on this for some time, determined to prove the

doubters wrong, and it looks like they've succeeded.

The French team's 3D shoot 'em up is the most technically advanced of any we've yet seen. On a standard 2Mb A1200, the screen generally updates somewhere between five and 10 frames per second, which may not sound very fast, but is sufficient to be playable, and very impressive for a full screen display. Add an



accelerator and some extra RAM, and rates of 50 frames per second are common when things aren't too busy. The developers are confident of doubling the speed in time for the game's release.

All of this technical wizardry would be useless if the game was no good, but there seem to be no problems on that score either. Fully animated scary monsters lurk around every corner, waiting to be splattered across the walls

with your wide ranging artillery. Details such as authentic walking effects and ominous background noises are being included to keep the tension running high.

Fears is very close to completion at the time of writing, but so far no definite publishing and distribution deal has been finalised. We'll keep you posted, with a full review to follow shortly. Until then, just watch your back. **TH**



Player Manager 2

Due For Release: April 1995 Publisher: Anco © 01322 292513

The news that Anco software are producing a new version of *Player Manager*, six whole years after the original was first released doesn't come as a surprise. The original was a major success because it was the most advanced and professional management game of its time, but the opposition has caught up and got ahead of it.

recently. The new version is designed for up to four human managers (in normal management mode, there's also a Fantasy Football-style dream team mode in which eight can play) and features the usual management tasks of dealing in players, satisfying the board, transfers, ground staff management and coaching.

To bring everything up to date however the graphics have been completely overhauled and new features include an in-depth play designer and Aislin Hansen giving you the benefit of his vast knowledge before and after matches. There is live on-pitch action and a play designer that allows you to create your own set piece strategy for taking corners and throw ins. In common with Audiogenics *Super*



League Manager, reviewed last month and Impressions *Ultimate Soccer Manager*, *PM2* will feature realistic newspaper coverage and commentary on your skills as a manager and abuse and ridicule from your computer opponents.

There are four modes of play in *PM2*: the Personal Challenge which involves playing to a set target, a Knock Out competition where you are up against the other managers in a promotion/relegation battle, the dream team 'Kick Off' mode mentioned above, using real footballers to see if you can select the

best team against up to eight other players and the ubiquitous, never ending management sim where you keep on going until you are a complete expert and buy another game. You can also take to the field as a real 'player manager' and control your man on the field - however he's not exactly at his peak of skills and fitness, so things may not go according to plan.

There are loads of modern management sims around at the moment, but *PM2* is looking good. We'll have a review soon. **AD**



Final Over

Due For Release: May 1995 Publisher: Team 17 ☎ 01924 267776

I have never ever understood cricket. Yes, it's a good, establishment approved sport for gentlemen, played on village greens, in The Oval in parks and stadiums all over the Commonwealth. And yes, I have sat watching it for whole afternoons - but I still haven't got to the bottom of how it is scored, why it is played and why the hell everyone isn't asleep after the first two hours. But it's popular all right, despite the efforts of

dinwits who think the game will be made more exciting (and more profitable) by dressing the players up in various coloured shell suits. Team 17's Alan Bunker reckons that *Final Over* might be very useful to me though. The players are all dressed conventionally, all the national and international league teams are in there, a variety of match lengths are available from 1 to 5 day and limited overs and, above all, he reckons, it's a dream to play and easy to understand. They've gone for 'Sensible' style

presentation with small sprites and a multi directional scrolling playing field, one or two player mode and arcade style play, as opposed to the more traditional management and stats adopted by most other cricket sims.

The game certainly looks interesting because, unlike most other cricket games I've come across, it doesn't seem to take itself too seriously. The sprite size and character make the game more accessible and interesting and the umpires are reputed to make dodgy decisions, which is likely to drive you up the wall, but is pretty close to real life.

The best news though is that Team 17 are releasing it at £12.99 on disk and £14.99 on CD, as part of their Arcade Sports series of simulations, of which the best so far has been *Arcade Pool* and the latest *KingPin*. If this quality to



price ratio is kept up, then *Final Over* should be worth a look.

One final word though on the subject of Team 17 press releases (of which we collected many at the ECTS). Their new marketing slogan is: 'Team 17, 100% Gameplay 0% Bullshit'. Now read this, about *Final Over*: 'It's another fine addition to the *Arcade Sports* series that has already thrilled Amiga games-players to unthinkable realms of games-playing heaven. 'Time to get the mop out. Something smells. ■ MD



Virocop

Due For Release: May 1995
Publisher: Warner Interactive
Entertainment ☎ 0171 391 4300

To be a famous novelist or poet you have to have a vivid imagination and a strong eye for continuity, rhythm, detail and atmosphere. To be a successful scrolling shoot 'em up storyline writer you have to have a mad streak too. Bunkers Stark raving, sit in the park talking to the squirrels (only now I haven't met Ian Wellington John Kershaw or Steve Turner, the chips over in GraftGold who originated and designed *Virocop* and I have no doubt that they are rich, well-educated and successful, but the idea behind this game demonstrates that there must be lunacy hidden somewhere within them.

Virocop is set in a 'virtual holiday theme park' called GameDisk, where fun is the order of the day until a nasty strain of octopus like viruses invaded the park and caused mayhem. Enter DAVE, or the Digital Armoured Virus Exterminator a little robot on

wheels who, armed with over twenty different weapons, is capable of destroying all the viruses and returning the GameDisk to relative peace, or something.

For one or two players, *Virocop* is good fun but difficult. On the first level, known as the Sport zone, the viruses have whipped various sporting objects into a frenzy and DAVE has to contend with fast bowling footballs and snooker balls as well as virus spawn. Because he is mounted on wheels DAVE is limited to climbing up ramps and sometimes can only go in one direction because of this. Venous weapons and power ups appear out of the floor and whenever you knock off a baddie.

There are four zones: each one with its own individual baddies: the Sports zone, the Platform zone (guess what is likely to happen here), Military zone and a shoot em up zone. There is a fifth, bonus zone, planned for the A1200.



So far *Virocop* looks manicly playful and good fun. The demo we tested was fast and furious and the detail and quality of the graphics was well up to scratch. A vertically and horizontally scrolling shoot 'em up, the game play is a little like a *PacMan* for the mneties, though you're not limited to specific corridors and

DAVE doesn't eat things, he has to chase objects (no, he regularly gets chased himself). The levels are very busy with lots of enemies and pick ups. Hopefully *Virocop* should be reviewable in the next month or so, and we're looking forward around here. ■ MD

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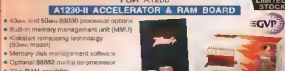
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Super Skidmarks 2



■ Price: £29.99 ■ Publisher: Acid Software ☎ 01302 890 000

Thankfully Acid Software's sequel to their best known title plays an awful lot better than it sounds!

Ever wanted to know how to beat your own four player joystick adaptor? If so, the instruction manual to Acid Software's latest *Super Skidmarks 2*, should point you in the right direction. Rather amazingly, the manual includes detailed instructions on how to build such a device, complete with circuit diagram. Still, this is the sort of thing we've come to expect from New Zealand-based Acid Software.

They first hit the scene at the tail end of 1993 with *Skidmarks*, amazingly written in *Blitz Basic*. It breathed new life into the overhead racing game genre, with its pseudo 3D viewpoint, responsive

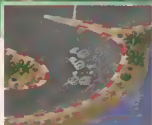
controls and ultra fast gameplay.

Wipe out

Skidmarks is now regarded as something of a classic, and *Super Skidmarks 2* was originally designed as an upgrade to the original package with extra tracks as well as an editor for creating new layouts. However, a full sequel made more sense as the product had expended so much in development, plus of course it would have to compete against the likes of Team 17's *Art Terrain Racing* as well as Acid Software's own *Roadkill*. Unfortunately there's no track editor on offer in *Super Skidmarks 2*, but it is possible to render your own sprites with *Imagina*, and import them



▲ *Super Skidmarks 2* lets users edit tracks including the use of light sources on each car.

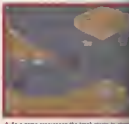


▲ Taking a corner too sharply results in plenty of skid marks (oh boy!)

into the game. Although the sprites are very small and use only a few colours, you could still do some interesting things with this feature, such as racing with digitised faces of your mates instead of cars for instance. You can also use your own custom sound samples.

Of more use to me is the fact that you can incorporate and use the tracks from the first *Skidmarks*, which at least stops the original game from becoming redundant as it so often the case when you buy a sequel. There's not really any need to use the old tracks though, as 12 new ones have been included, all of which are superb. Some courses are fairly basic, straightforward affairs, but most are packed full of hazards like sharp dips and steep ramps. The cars from the original game have returned to race on these tracks and there's a whole host of new models including the Mini, VW, Formula 1 and a cow. That's right bovine fans, one of

the championship courses is called California Cows, and requires the player to race a cow complete with its own set of wheels, against other similarly equipped cattle! It might sound bizarre, but it's tremendous!



▲ As a game progresses the track starts to show the wear and tear caused by the sliding cars.

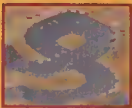
Hunting high and low

If you have a standard A500 this probably won't be of much interest to you so don't read the rest of this until you've upgraded. Ah, you're back, that's better isn't it? As well as the standard low-res mode, AGA owners can also enjoy the delights of hi-res while playing *Super Skidmarks 2*. What's the difference? Well...

Lo-res: Offers a close up view which is best suited to the one player mode. That's lo-res in a nutshell, my friends.



Hi-res: More detail and more action on screen is coming to a monitor near you if you select hi-res. Things can become cluttered though.



and proved a surefire crowd puller around the office. The weirdness continues with the option to tow a caravan behind your car (or your cow!) Hook up a trailer, and you've got the added problem of inertia to deal with.

Car power

Each car has its own handling characteristics, so the Formula One is extremely fast, while the Mini has exceptional handling. In case you were wondering, the cows are in fact the fastest vehicle featured in the game. Just goes to show the power of methane eh?

The different characteristics of the cars aren't too important however, as the difficulty level can be altered to suit everyone from beginners to experts. The other major new feature is the split screen multiplayer option that allows up to three people to race against each other using one Amiga.

Super Skidmarks 2 has plenty of benefits for AGA Amiga owners. These include music on the options screens, up to eight cars



▲ Follow the arrows to get around the track as fast as you can.

competing at once as opposed to four on other Amigas, and a hi-res mode which shows more of the screen at once but might prove too cluttered for some. But even on an A4000 there's still some noticeable slowdown in the two or three player mode. Don't get me wrong, it doesn't hamper the gameplay in any way and even makes some of the faster cars like the F1 easier to handle. That isn't the point though, and considering the obvious technical prowess of the Acid Software programmers I don't expect to see slowdown in one of their games.

That's just a minor niggle however, and overall *Super Skidmarks 2* is a much more polished and complete game than the original. The realistic racing element is still the key to the game's attraction but that wacky humour certainly helps too. Graphically everything is considerably more detailed than it was in *Skidmarks 1* and I particularly like the light sourcing on the cars. The sound has been smothered up too (not that I know what a cow with an internal Formula One engine sounds like!) and the ability to beep your opponents with a horn is a laugh (as in *Micro Machines 2*), if slightly pointless.

Too tough

Other than the slowdown, my main worry about the game is its steep difficulty curve. If you're expecting to breeze through the courses like you did in the original *Skidmarks*, forget it. *Super Skidmarks 2* is tougher than a rubbery old pork chop. The computer cars have obviously been to driving school, as their intelligence when it comes to keeping on the track is considerable, so expect to finish in last place on a regular basis for the first few games or so. This is probably a good thing. The original game's lack of difficulty gave it a kicking in the multi-player stakes and only the multi-player option saved things. But then how many of you were able to take advantage of the preferable modem link up option?

The car's the star

A choice of eight cars sweeten your driving skills in *Super Skidmarks 2*, each of which features different handling characteristics.



The Cow: This isn't a car, it is a fully fledged haifer. Moves faster than Tony Horgan at a rave but is easier to control.



The F1: Super fast and super leaching in control, the formula car is definitely best left to the expert drivers out there.



The Mini: The Mini is Mr or Mrs average that doesn't excel at anything really. Average handling and average speed.



The Midget: The midget is hard to categorise but it's bouncy and a handful on some of the more obstacle-laden courses.



The Muscle: The muscle is one of those trucks with huge wheels and consequently has great control but is fairly slow.



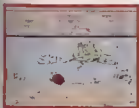
The Porsche: Cleasy stuff indeed. Like the Mini, the Porsche is hard to categorise, but one thing's for sure - the girls love it!



The Truch: The truch is hinde like the Muscle but without those big wheels. Still features awesome handling though.



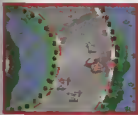
VW: Hurrah, it's everyone's favourite car, the trusty old Beetle. Nothing special but who cares. It's a Beetle. Hurrah again.



▲ While the game is loading it's possible to redeign a spot of Peeg.



▲ Unlike the original Skidmarks, the sequel allows for a two or three player split screen game as just the one thing.



▲ There's an option to race while towing a caravan. This leads to plenty of hectic-beaty twists and turns.

Exactly. With a comprehensive and challenging selection of one player games and a simply superb multi player option, this is a title that will find itself being booted up far more than the original ever was.

Super Skidmarks 2 is one of the best games I've ever played, certainly the best so far this year and definitely the best game yet from Acid Software. And for once us Amiga owners have got it all to ourselves. Hurrah! ■

Rik Skewes

SUPER SKIDMARKS £29.95

- workbench version 1.3+
- number of discs 3
- RAM to run 1MB+
- hard disk installable yes

graphics 87%
sound 84%
installability 86%
playability 82%

OVERALL
Another Acid
Software
racing classic.

92%

Super Loops

■ Price: £29.99 ■ Publisher: Audiogenic ☎ 0181 424 2244

Trouble with the ol' waterworks? Well help yourself sort it out with this crazy pipe-fitting puzzle game.

Who needs a plumber's apprenticeship when you've got a game like *Super Loops*?

Following similar lines to the classic *Pipemania*, in its simplest form *Super Loops* is a puzzle game which involves linking up bits of pipe to create as many complete loops as possible. You get all sorts of bizarre shaped piping thrown at you at random and you've got to quickly flip, move, and rotate it until you find somewhere where it can slot in. This is OK when you only have about two or three bits of piping



▲ The monkeys get ready to do the dirty on a rather large loop in format

on screen but later on in the game it's no joke when the grid starts to fill up and you're trying to squeeze big zig-zag pipes into a tiny gap. However, I found the best way around this was to lay piping down for huge loops and then try and fit smaller ones inside it, that way there is less chance of overlapping and messing up your plans to create that perfect loop.

Too little time

It mightn't sound particularly exciting having to juggle bits of piping into interlinking shapes and to be honest it wouldn't be if you didn't have to beat the clock to do it. Each level has a set time limit and as you progress through the levels, it gets shorter and shorter to the point of being totally impossible. To liven things up a bit there are various other options, such as two player challenge mode, bonus games and variations where you are shown the final shape first and then have to try to recreate it from memory.

You can use either a mouse or joystick to move and position the blocks. I tried playing *Super Loops* with a joystick at first and found it virtually impossible. Mouse control is much easier to use.

Sound and graphics

The graphics in *Super Loops* are OK. The first few levels are set in a tree and every time you form a loop, the monkeys living in said tree let out a big cheer. As you progress through the levels, the background graphics change and the monkeys are replaced with various creatures who scuttle across the screen every time you create those valuable loops. The music is a sort of techno-guitar type ditty, and



▲ Yes, two perfectly formed loop coming up



▲ Nearly any green left means time's nearly up



▲ Avoid putting anything on the grey blocks.

although it's not earth shattering, it wouldn't deter you from playing the game.

Conclusion

Super Loops is not a groundbreaking idea for a game, but it's on par with many other puzzle games. If you like a good test of mental and manual dexterity, *Super Loops* will keep you busy for a while. ■
Lisa Collins



▲ See what I mean about bizarre shapes?



▲ Time to lay down heavy duty pipes



▲ Only one loop and lots of other altered ones. Looks like I'm on my way out.

Super Loops £29.99

- workbench version.....£3
- number of disks.....1
- RAM.....1MB
- hard disk installable.....yes

graphics.....	85%
sound.....	75%
installability.....	90%
playability.....	88%

OVERALL

One for die-hard puzzle fans.

83%

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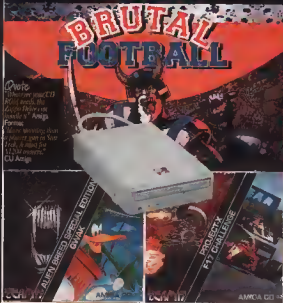
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"Incredible graphics, awesome special effects" 92%

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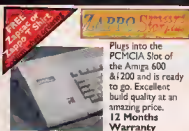
"Fast moving graphics, excellent handling, to game to be named" with 94%

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Championship Manager Italia '95

■ Price: £24.99 ■ Publisher: Domark ☎ 0181 780 2222

The Italian first division, Serie A, is widely regarded as the most concentrated collection of footballing talent the world has to offer. The stakes are high and the rewards for winners are enormous. However, if you're the man in charge when your team's on the losing end of things, it can all go pear-shaped.



▲ And it's a mighty victory for Lazio Milan

before you even get a chance to sob into your spaghetti! *Championship Manager Italia '95* puts you in charge of a team from Serie A or B, with the aim of getting them to the top of the league.

Once you've endured the lengthy initialisation sequence, you can decide which team you want to manage. With 37 Serie A and B Teams to choose from, you're spoiled for choice. Next comes squad selection which takes time as it is near impossible to remember all the different requirements of each player, and you have to flick back and forth between several different pages of team info.

After picking your team and starting the season, you have a couple of weeks to make transfers. This is far more awkward

than it needs to be. Instead of giving you a list of all available players and letting you take your pick, it demands you specify the exact abilities of the kind of player you're after. More often than not there's no one who exactly fits the bill, so you get the reply "No players available". You then have to go through the whole procedure again, with different statistics.

The fun starts once you get to play some football. You don't get to see the action, but a screen keeps you informed of the score in text form. It's immensely satisfying and strangely addictive. The results update and transfer news goes on a bit, breaking up the flow.



▲ The Lazio squad complete with Lazio

In between the delays and long-winded selection screens, *Championship Manager Italia '95* is a very engrossing management sim. Anyone who doesn't mind napping off to make a cuppe every ten minutes would do well to take a look.

■ SLW

79

Premier Multi Edit System

■ Price: £14.99 ■ Publisher: Gremlin Interactive ☎ 0114 275 3423

Premier Multi Edit System is an editing package for use with *Premier Manager 3*. It allows the user to customise the eight major aspects of *Premier Manager 3*.

Each section is selected by clicking on one of the icons. The first icon allows the manager's

statistics to be altered, from trivial things like his name and photo, to more important features like length of contract and which team he manages. Next up is the ability to edit player data. This is an area where self control needs to be exercised because it's possible to change every player's rating to 99%, which quickly makes for dull

gameplay. I recommend trying it with at least one player though! The third icon is more of an extension of the second and allows players to be moved from team to team without the need for transfer negotiations. You want Stoychkov at Wycombe? You got it!

Option four allows club data to be altered, everything from keeping up with over changing football strips, to lowering the safety rating of teams you don't like or increasing the cash reserves of struggling clubs like Gillingham, so they can afford the likes of Klinsmann and hit the big time. Or perhaps not. The next two options allow you to completely rebuild league tables and change the counties and stadiums at which cup final matches



take place. So you could construct a league entirely from superteams or have the European Cup final take place at a non-league stadium!

Perhaps the best and the most amusing option is the one that allows you to change the terms used for player ratings, so instead of being "good" they could be termed "groovy". You can change the names of injured players and how long they will keep a player out of action. In my version an upset stomach now affects a player for 23 weeks!

It's hard to rate the Premier Multi Edit System as it isn't a game in its own right. Assuming you can stop yourself from mucking about too much than you'll find it a very useful product, especially if you want to keep your favourite team as up to date as is possible.

■ Rik Skews

86



▲ Change a player's rating from 80 to 99



▲ Tap up your cash with the edit club data option

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011 ANJIAN HT PONG	Persea, Solanum, Solanum, Solanum (35)
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017 DIGITAL BASTI	Persea, Solanum, Solanum, Solanum (35)
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Manchester United -The double

■ Price: Unconfirmed ■ Publisher: Krisalis ☎ 0709 372 290

The quadruple more like. Krisalis bless the Amiga with its fourth Manchester United game.



It's possible that some degree of injury to players could result in a player being substituted, though you can't leave them as if they were a piece of furniture.

It seems software companies must be mad or supremely confident to release a footy title these days. For one thing, it's such an overcrowded genre. Then you've got try to live up to the standard set by the hugely popular *Sensible World of Soccer*, regarded by many (myself included) as not only the greatest footy title ever, but simply the best computer game ever. So what can *The Double* offer that *SWOS* can't?

Well, there's pedigree for starters. The Manchester United series has been running for over five years now, with each successive game receiving more praise than the last. *The Double* is built around an updated and enhanced version of Krisalis' last Man U game, *Manchester United -*

Premier League Champions. *The Double* features exactly the same control and gameplay as *Premier League Champions*, but the overhead perspective has been ditched in favour of an isometric viewpoint.

What's new?

The main addition to the game engine is a comprehensive editor, which works in a similar style to *Grimm's Premier Multi League Edit System* for *Premier Manager 3* (as reviewed on page 56). Unlike *Grimm's* editor, *The Double* concentrates purely on the editing of players. Everything from their names and skin colour to their various skill ratings can be altered, or if you want, players can be created from scratch. Leagues can be built up in the same way, while a nifty kit design option completes the editing package. Players can now be bought and sold too, courtesy of a transfer feature.

Gameplay remains exactly the same as it did in *Premier League Champions*, which is hardly a bad thing. The excellent Tact Gnd is back. If you're not familiar with the system, it allows precise control over the positioning of a team's players on the pitch regardless of their overall formation. Use it well and it's a sure

fire way of increasing your chances of winning. For such a powerful system it's a big sticky piece of chocolate cake to use (that's a good thing) and puts the tactics system in *Sensible World of Soccer* to shame. Other key features of the game include up-to-date squads and numbers as well as bookings

and suspensions. Some of the team selections are dodgy however. If you're a big footy fan like myself, you'll wonder what the likes of David Kerlake are doing in the Spurs defence when more regular first team players are sitting in the reserves. Also some transfer values can appear conservative, but these are alterable by tinkering with the player's skills. Anyway, player valuations are next to useless most of the time, whoever would have thought that Andy Cole would have been sold for £7 million for instance?

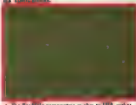
Trying too hard

The original *Manchester United Premier League Champions* had its critics, but I preferred it to FIFA and rated it a close second to *Sensible Soccer*. The problem for *The Double* is that it has been released at a very unfortunate time with two competitors offering better products. In my opinion, as far as the arcade game is concerned, *The Double* is beaten in every department other than sound when compared to the seemingly unbearable *Sensible World of Soccer*. I also think that *Grimm's Premier Multi Edit System* mops things up as far as the editing options go.

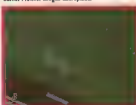
Don't think that *The Double* is a bad game, because it isn't. The control system, once mastered, is excellent and the presentation and graphics are much clearer than those in *SWOS*. The transfer option adds plenty of testability to the game and stops the annoyance of seeing the likes of Andy Cole still at Newcastle months after he has left, a problem which plagues *SWOS* (you've got a thing about Andy Cole haven't you? - Ed). It like me you're nuts about football and footy games then *The Double* is an ideal second purchase. But if you're after a game which is the best in its market then I'd recommend *Sensible World of Soccer* for arcade fans and *Premier Multi Edit System* for football management



The editing package allows a player's stats to be lowered or boosted. You can even change the player's name.



The Double's perspective is able to offer a wider view of the pitch than the overhead view of the original *Premier League Champions*.



Krisalis reckon this game necessarily recreates real life footy, but how can it when *Sensible World of Soccer* has just managed to score a penalty?

lovers. Unfortunately, *The Double* suffers from that old problem of trying too hard to appeal to all gamers. It succeeds but there are other titles out there which, in my opinion, do a better job.

Rik Skewes

MANCHESTER UNITED

workbench version	1.3+
number of disks	3
RAM	1MB
hard disk installable	no
graphics	81%
testability	78%
playability	88%
overall	82%
Good, but as always <i>SWOS</i> is better.	



Check out records of play by the action replay.

Theme Park

■ Price: £34.99 ■ Publisher: Mindscape ☎ 0444 246 333

Bullfrog's *Theme Park* finally makes it to the CD32, after scoring a hit on just about every other computer and console format.

Despite the subject matter, *Theme Park* isn't a white-knuckle thrills extravaganza. Quite the opposite in fact. There's all the fun of the fair, but you don't get to go on any of the rides. Instead you play the manager of the park, with the job of building an entertainment centre to rival those of Walt Disney.

Before you start, it's advisable to read the 'New Business Portfolio' (why can't they just call it a manual?) as it's nigh on impossible to get into the game without any background knowledge. The instructions are bigger, longer and chunkier than a box of Yorkie bars, but then big games call for big manuals.

The trippy 3D cartoon intro sequence gets things off to a good start. As the game loads, it checks to see whether you've got a joypad or a mouse connected, and adjusts itself accordingly. If you choose manual control, you'll be prompted your name and details on the set-up screen, unless you have a keyboard attached. However, you can win with a joypad.

Strange but true

There's a built-in beginner's guide to help you get started.

Although it's still a bit confusing to the first-time player. Once you've passed the Olympian task that is the beginning, bought a few rides, deciphered how to open your park and started the game properly, things become more fun.

Watching your little customers milling around with their balloons is quite entertaining and the sound effects and music are very pleasing. It's like *Sim City* with rollercoasters.

If you have been playing for a couple of hours and you want a rest, you would think it wise to save. In this version, you cannot save your actual park, only your details and the amount of money you have. This means that next time you come back to it, you have to start with an empty park, which detracts substantially from the game.

Unlucky! But when you do start a new park, which is handy if you want to get rich quick, but the top speed is a bit of a scunner as all the animations skip a few



▲ When... all the fun of the fair. I know it's a cliché but it's true.



▲ Build up your dream park from a raft of grass to a spectacular carnival business with all sorts of attractions and rides.

frames and end up looking like something from a weird Eastern European cartoon.

There's plenty of satisfaction to be gained from building your park and watching your customers enjoy themselves, but the lack of a proper save game feature spoils it all. Having to rebuild the park every time you play is demoralising, and will be enough to put many people off for good.

SLW



Control panel
▲ Move to corner
▲ Select object
▲ Drop and select object

70%

ATR CD32

■ Price: £25.99 ■ Publisher: Team 17 ☎ 01924 267776

Earning itself a respectable 95% last month in its standard Amiga incarnation, *ATR* is now available for the CD32. It's a direct port from the original floppy version, so even though there's nothing added, there's nothing taken out either.

What we've got is a scroting

top-down racing game, in the vein of *Headliner* and *Micro Machines*. There's a choice of three futuristic cars: the 4x4 Jeep, the Ultra Buggy and the Formula Special, each of which handles slightly differently.

Before you race you can do a bit of shopping: upgrading your car to suit your driving style. Nervous drivers could go for extra grippy tyres, while speed freaks can boost the engine power. Shock absorbers and power steering are also available for generally improved performances.

The races themselves are fast and furious. Tearing round the cleverly designed tracks is thrilling. Sometimes they're so cleverly designed that you get completely lost and end

up going

round the track backwards due to a lack of clear directions. You really have to know the track before you race it. Also, some of the obstacles are so small and unobtrusive that they look like bits of the background, until you crash into them. It really gets the adrenaline going though and in the end, the sheer excitement and playability win through and you forget about the minor faults.

I would have thought they would add CD quality sound during the conversion, but no matter. It's thoroughly addictive and, like a good record, you'll keep coming back to play the best bits.

SLW



▲ Edit
▲ Brake
▲ Accelerate

85%



▲ Tacky a dip to the track track?



▲ Even more machines on the mountain track.

King Pin

■ Price: £14.99 ■ Publisher: Team 17 ☎ 01924 385 903

Unlike bowls, which involves people in tank tops and slippers rolling 'unround' balls around a village green, Ten Pin Bowling is the wholesome pastime of mafia bosses and families from Milton Keynes. Basically skittles using big balls with finger holes I never thought it would look good on screen, but Team 17 have changed my mind.

There are three main play options. A Single series where you can play against up to five computer opponents in one, three or five full games. Pairs involves you teaming

up with a partner trying to beat another couple with your combined scores, and Two consists of two teams of three competing against each other over a set amount of games. There are other variations such as Matchplay where you must win a certain amount of games and Spares where you have to knock down awkward 'spits'. In case all of these scoring methods gets confusing there's a handy computerised score sheet to keep track of all the points.

Team 17 have tried to make *KingPin* as close to real bowling as possible, so you also have to contend with waxed floors which have slight curves and bends. To combat this you can choose from a variety of ball weights and can increase or decrease the strength of your shot accordingly. There's even an option to give you that extra edge.

KingPin on Amiga received a very respectable score of 76% when it was reviewed in the March issue of CU Amiga Magazine. It was credited with good graphics, involving gameplay and intuitive control, and nothing whatsoever has changed on the CD32 version. Control is just as simple: you



▲ I would like to point out that I have never dressed like this. Ever.

can move the player's position, alter the ball's weight and the power of the shot. The sound is mainly limited to pin racking noises and random announcements from a female voiceover telling people to move their cars away from the entrance. It's an original concept though and at £14.99 it's good value for money. ■



▲ Why hey I'm so sorry! It's so sorry Alan I'm only joking.

can move the player's position, alter the ball's weight and the power of the shot. The sound is mainly limited to pin racking noises and random announcements from a female voiceover telling people to move their cars away from the entrance. It's an original concept though and at £14.99 it's good value for money. ■



▲ Nice automatic rounds off a satisfying three. No split though.



It's good! Best combination! New lighter ball! New heavier ball! More power and more fun! (Slightly better)

78



▲ Is what's the National Radio doing in this game?

Fad up, having to work hard for a living? Well, *The Clue* could be just this game for you. It teaches you how to plan and pull off robberies ranging from little jobs such as your Auntie Emma's corner shop to the Tower of London.

You play the part of a young criminal who sets off to seek/rob his fortune in the bright lights of London. You begin in Victoria station with no money and nowhere to go. But as luck would have it, you



▲ The Beatles had a song about waking up something didn't they?

The Clue

■ Price: £29.99 ■ Publisher: Neo ☎ 01438 840 804

jump into a taxi and are told that you have won a year's free supply of taxi rides – just the job for any budding criminal. Give a false name at the Ugly Dog Hotel and you get a room from where you can plan all your blags. Plotting a coup involves staking out and investigating all the locations on the screen, talking to everyone to find out who might be useful and what percentage of the takings they want.

Once you've gleaned enough information it's back to the hotel room where you sit down and plan your crime. First though you've got to get one or more accomplices. The hotel phone is just the job as it links you directly to any contacts you've made earlier. Once you've got one or more accomplice you can set about drawing up blueprints for the job. You can then start the robbery but if you get caught you'll end up in a monastery (!?) for the rest of your days. If the job is successful, however, you can listen to the police reports as they investigate the robbery and find out any mistakes that you might have made.

There is not much difference between



▲ Miss Jagger 'I'm not waiting for a lady, just waiting for a friend'

this and the Amiga version. Some speech has been added, but it's only in the form of a monologue/narrative from the main character, which is a shame as it could have added more atmosphere to the game if the other shady characters had been given voices. ■



Beats!

More money on money

83

Amiga Frame Grabbing has just taken a Fall... in Price, but definitely not on quality!

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Award winners

Platinum edition

■ Price: £34.99 ■ Publisher: Empire ☎ 0181 343 7337

It's a testament to *Civilization's* addictivity that the name of its creator, Sid Meier, has become so famous in the computer entertainment world, and that the game still ranks among the top three favourites if you ask games players and journalists now – four years after it was first released.

In *Civilization* you have to guide your people from the stone age through to the space race, trying to keep at least one step ahead of the opposition by building cities, controlling economic conditions and the mill rate, mining and exploring territory and developing new technologies, products etc.

You can have up to seven computer opponents and can play the game on Earth or on

another, custom built planet. You start the game in 4000BC with very little opposition but as the boundaries of science and discovery widen you will encounter the other civilisations and war will ensue.

Millenia later, if you are not destroyed you will see rockets, jet aircraft and atomic power and if they don't destroy you well, you're God.

Lemmings has sold over 2 million copies world wide and has been Psygnosis' biggest success story. The concept is simple enough, but the practice is mind bendingly addictive. Lemmings are suicidal rodents who, every year in the Fjords or Norway, take it upon themselves to jump off cliffs en masse. In the game they are equipped with a number of devices and tricks which the real animals don't have, such as shovels and umbrellas, and if you get sick of them you can press the nuclear self destruct button with hilarious results. The basic idea is to stop them from dying though. Oh come on! If you don't already know about Lemmings you've been living on the

moon for the last couple of years.

Which brings me to *Frontier*, in which you can start off on a moon if you like.

Frontier is the product of David Braben, who became famous in the 1980s for *Etrian*. It's the follow up to this game and involves trading, lighting, mining and exploration of a vast universe, building up your status and power and the size of your space ship. The ship (and game), for that matter, can be viewed from a variety of different angles

and all communication with the outside world is carried out from within its confines. You're not just limited to the same ship though. As you become richer and more successful you can upgrade, which in turn increases your range and money making possibilities.

Frontier is possibly the biggest game ever pecked on to one double density disk. You can choose from a wide variety of 'careers' to make money, including transport, mining or military and both your skills as an overall strategist and

as a ship to ship space combat-er will be tested to the hilt. Although it's a good game I must admit that I'm not med on *Frontier* but the general consensus of everyone else in the office is that it's brill.

There's only one flaw in Empire's marketing strategy though. Surely everyone has these games already, don't they? **AD**



▲ *Don't be, only taking. It's Lemmings of course*



▲ *Frontier: If you take a general already*



▲ *It's the beginning of the world as we know it.*

Space Hulk

■ Price: £14.99 ■ Publisher: Hit Squad ☎ 0161 832 6633

In space everyone uses the game clichés, especially when trying to describe a game where a squad of mannes

infiltrates a space ship to destroy enemy aliens. But I won't. Once upon a time Gremlin produced a game called *Space Crusade*, based around Games Workshop's Warhammer 40,000 series of tabletop role playing games. It was best played as a 2D game but there was also an isometric 3D view, which was slower, but more illustrative.

Not content with this admittedly rather good effort, Games Workshop teamed up with Electronic Arts to produce an

even more realistic game, where the main view was first person. When a Soul Sucker attacks you, you can see him coming through a central screen on a control panel (see left), and it's not a pleasant sight. This control panel also allows you to view what up to four other Marines can see and has an overhead map, showing your location in the 'hulk'. There is also an overhead 2D viewing and weapons screen and the action takes place in real time.

Space Hulk held pole position



for this type of game until *Doom* appeared and few other role playing games have the same sort of shoot 'em up action and genuine suspense as it. To succeed at the 50 odd missions you need to know the controls inside out. It'll take you a while to get acclimatised but *Space Hulk* is an enjoyable and rewarding game once you do. **AD**



92%
70

88%
70

Dreamweb

PART
2

Tips

Hello again and welcome to our second and final solution to Empira's top adventure game, Dreamweb. Sitting comfortably? Then we'll begin ...

The TV Studio

Go to the TV studio. Walk as far right as possible then as far down and go left. Use the gun on the old security guard. Examine the barner controls and use them. Walk left and up into the studio. Pick up the passcard which is hidden under the brochure. Go left and down into the storeroom. Examine the fusebox, use it with the screwdriver and take the fuse. Now go far right and up the ladder. Examine the winch control and then open it. Replace the blown fuse with the one from the storeroom. Use the winch control. Splat, one dead General!



Chapel's House

In the Dreamweb, talk to the keeper once more and take the key. Use the right hand door in the main corridor. Use the key on the plinth as usual. Ryan will materialise in a car park.

Go left and examine and take the wire cutters from the back of the car. Go to Chapel's House via the travel screen. Walk to the wall, examine and then use it. Examine the cartridge and then take it.

Return to Ryan's flat from the travel screen and put the card from Chapel's house in Ryan's interface. Use the network interface and LOGON with the tag BECKETT. Type SEPTIMUS as the password. Type CARTRIDGE and then READ BRIEF.



Take the wire cutters from the back of the car in the car park.



Take away you get the cartridge in Chapel's house.

Sartain Industries

Once back in the Dreamweb, talk to the Keeper and pay special attention to what he says about, 'knowing someone well'. Go as far south as possible and take the purple crystal. Go as far left as possible, examine and then use the door on the bottom right. Use the key on the plinth as usual. You'll materialise outside Sparly's Bar and from here use the travel screen to return to Edna's house. Walk left to the bed and examine the organiser hidden under Edna's purple shirt.

Use the organiser and keep pressing the N or P keys until Sartain's address comes up. Go back to the lift doors and take the cartridge marked 'Sartain Industries' which is resting on the table. Leave Edna's flat and return to your own flat via the travel screen. Pick up any mug and stick it

in your inventory, you'll need it later. Use the network interface with Edna's card. Use the network in the usual way and type LIST CARTRIDGE. Now type READ CODE and take down the number. This will let you into Sartain Industries. EXIT the network interface. Proceed to Sartain Industries via the travel screen and enter the doorcode 7833. Walk to the computer and use Ryan's gun on it. Go left and enter the malfunctioning lift doors. Examine and then use the lift controls. Use the crystal.

Head down, walk to the briefcase and examine it. Take and use the papers to get Chapel and Underwood's addresses, as well as other useful gossip. Walk to the door on the right, walk up the steps and then walk to the doorstep. Walk to the terrace and see the gun. Boom, there goes person number three!



Keep pressing the N or P keys to get Sartain's address.



Lords of the Realm



PART
2

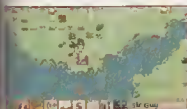
This month we look at invasion strategy and controlling far too many counties for your own good.

Controlling lots of counties can be a serious pain in the neck: it means more work, more risks and more exposure. On the other hand it increases your potential revenue and provides you with multiple opportunities for trade. And hey, it's also the aim of the game.

In order to hold on to your new conquests you will need to make sure that your home county is connected up to them, otherwise you will lose control. If an enemy army invades one of the peasants rebel in an intermediate county you will not only lose your far flung realms, any castles you have built will disappear too, leaving the occupying army stranded. To avoid this, try to order your conquests so that they always share more than one common border with other counties under your control. Remember though, the same thing will happen to opposing nobles and to avoid having to destroy or take all of your castles, why not make them magically disappear by cutting them off from their home county.



A: The army above is 1000 strong, but beware of caliche this one. They will not a county this headquarters and might become homeless if dismantled.



A: And on another castle has been destroyed by the forces of St. Guy, who has laid waste to the end of this quest.

Leap frogging

Taking and controlling every county you come across uses up valuable resources and will merely make your job more difficult in the long run. If you completely surround a county then just leave it alone: it will not bother you again. When you're done with most of the other Lords you can then conquer it if you want - but as long as it's not bothering you there's really no need. You can also station soldiers in unconquered counties to spare your own food resources. Beware of these counties, though, they may seem empty and undefended but they can contain a surprisingly large amount of peasants and may need a large army to conquer if you wish to do so.

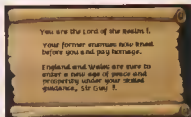
Manually controlled battles can be fun - if you have a 50MHz machine! They are slow and laborious otherwise, but you will need to take control if you adopt herd level warfare because the enemy will beat you easily if you don't. Taking control is also terribly tedious if you are fighting with less than 500 troops. If you've read your handy guide to hit and defence points you'll discover that swords are best for both, bows have the longest range and crossbows have more power but less range than regular bows. Knights are cool too, but expensive.

Move your army forward a little (leaving some swordsmen or knights in reserve, placing archers and crossbowmen just behind the swordsmen. Target the enemy with your archer's bows and let them come to you. You will pick off a lot of troops this way. Once they have nearly reached you set your swordsmen on them. At this point withdraw your archers back to their original position. See how the battle is going and if necessary send in your reserves to speed things up and finish them off.

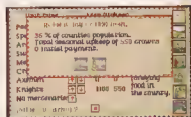
If all is not going well and you are being really slaughtered, withdraw your troops and set the archers firing at the enemy again. Let the enemy follow your troops into the fire and then release your reserves on their flanks. The white flag is basically useless: you might as well fight on until all of your troops are dead.

Siege warfare

When besieging a castle don't try to storm it straight away. Reduce the amount of fighters



A: And in the end, the Lord of the Realm crushed after this, but shouldn't be before conquering the whole country and defeating the other Lords.



A: They say wealth counts, but it can also buy 1,000 ladders.

to zero and increase the amount of builders to the maximum. Then build as many trebuchets (large destructive catapults) as possible. Build ladders with any spare men. Leave this screen and wait until the next season. Continue building trebuchets next season until you have at least three, but this more the merrier. Target the first season's catapults at the weakest and lowest outer wall, but don't send in any ground troops yet. If the walls are large you may need some siege towers but these take a lot of men to build and may not be of use.

Once you have knocked plenty of holes in the castle wall it's time for a mass assault. This should take place in season three or four, and if you have destroyed enough walls each season with your trebuchets then it will fall very quickly. Remember, when using ladders or assault towers your troops can be doubled up. You may also be able to take a castle by aiming all your trebuchets at the flag. Keep on pounding it with enough firepower and it will fall.

To defeat all of the other lords you may have to neglect parts of your kingdom, and peasants may oust you from some counties, don't worry about this too much (but try to police rampaging peasants and ex-slaves or they could make things difficult). Once the serious opposition has been defeated you will be made Lord Of The Realm whether you control them or not. ■

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Get Serious

LEANING OVER THE EDGE



I received a letter from a Mr Archer who wanted to see pictures on his Amiga like those on a Mac. I explained that for life-like photorealistic quality he'd need an AGA Amiga at least, or buy a big box Amiga and add a 24-bit card. But he said he didn't have the money and wanted to know why his Amiga couldn't do it as standard.

I hear this argument frequently. The Amiga is a fantastic computer and its basic hardware is better than PCs and Macs which cost much more. However, Mac and PC owners constantly upgrade their systems (how many 286 PCs are still around?) adding 16-bit sound cards, graphics cards and are therefore able to edit and display much higher quality pictures.

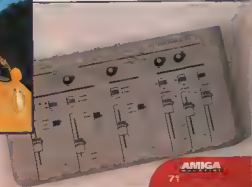
Unfortunately, some Amiga owners don't seem to realise this. They assume that their unupgraded Amiga will be able to do everything that expanded PCs do and when it doesn't they complain. It's Commodore's fault, Amiga software isn't as good, developers aren't supporting the Amiga etc, etc, etc.

Strangely it's never their fault. They don't seem to consider that if they spent more money on their Amiga, software developers would be able to produce better programs. Let's face it, Microsoft Word would never run on 286 PCs, it's only because PC owners have upgraded that Microsoft have been able to develop and release such a powerful program.

If Amiga owners would do the same the Amiga market would be a lot stronger than it is now. Likewise software developers wouldn't be held back by the slower systems and could develop big powerful do-everything applications. As a result we could gloss at the over-priced PCs that our neighbours had bought. If you chose to buy a basic model Amiga don't expect it to do what the super expended PCs and Macs do and don't complain when it doesn't. ■

If last month's Get Serious pages were a hardware bonanza this month's are a software spectacular. Firstly there's a detailed test of Amiga paint programs and a look at My-Money - a new financial package. But it's not all software; there's a super new genlock tested as well. It's all here in the next few pages.

- **CTV Micro Studio 2000 72**
It's big, it's covered in knobs and Tony Hergen's in love with this all singing all dancing genlock, chromekey and mixer.
- **My-Money 74**
Got a problem with your cash flow? Andy Leaning checks out this financial planner. Will it help or is it not up to scratch?
- **CD-ROM Round-Up 78**
Another slew of silver slivers slide slowly into the CU Amiga Magazine CD-ROM mechanism (who writes this stuff?).
- **Graphics Comparison 82**
André 'Monet' Digerd test drives the top four Amiga paint packages to find which offers the best painting tools.
- **PD Scene 86**
All the latest games, demos and oddities from the public domain.
- **PD Utilities 91**
André Digerd goes on a mysterious adventure as he explores the fascinating world of public domain utilities and applications.



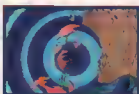
Micro Studio 2000

Make your own pop videos, sci-fi epics, gross roots documentaries and corporate presentations with CTV's new video mixer.

■ Price: £750, £1100 (with TBC) ■ Developer: CTV Multimedia ■ Supplier: CTV tel: 01208 330870



▲ Nearly pop-video type effects are possible with the chromakey and luma-key features.



▲ Key is a striking colour backing from your Amiga, and you're transported to Freeway City Arsenal.



▲ The Micro Studio 2000 is well stocked with audio and video inputs and outputs, offering both VHS components and S-VHS compatibility, along with separate outputs for video, audio and composite graphics.

As we mentioned in our animation feature last month, CTV have released what's potentially one of the most powerful tools ever available for Amiga video producers. The Micro Studio 2000 is a video mixer that combines two video inputs, chromakey, luma-key and genlock mixing of Amiga graphics, four types of wipe, three channel stereo sound mixing with bass and treble EQ, noise reduction, and separate audio and video monitoring. It's available in two versions, with or without an internal time base corrector. It all sounds very impressive, but can it live up to such a promising features list?

Connecting up

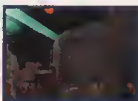
Getting hooked up is a simple enough affair. A lead comes with the Micro Studio to connect it to your Amiga's RGB output. The lead that came with our test model was actually too short to reach around to the back of a big box Amiga (A4000 for example), although we are assured this oversight will be rectified on units supplied to the public. Along with the Amiga, you can connect up to two

video sources. These can be either S-VHS (Y/C) or composite sources, although both sources must be of the same type.

There are three sets of video outputs, plus a through port for keeping an eye on the computer graphics on another screen. The main output offers both S-VHS and composite connections, and there are two of each, giving greater flexibility for monitoring and recording. The third video output is a composite connection, which takes its signal from which ever channel is assigned to the preview monitor. This allows you to monitor one of the video sources on a separate screen, prior to fading it into the main display.

On the audio side there are two stereo line inputs (phono

sockets), plus a monophonic microphone input (mini jack socket). The combination of these sounds is output through a pair of stereo phono sockets. There's also a monophonic line level phono socket which can be used to monitor any of the three separate sounds, prior to fading into the main soundtrack.



▲ Replace bright parts of video with graphics.



▲ Two sight into key with another key effect.



▲ 18 April 1985 - London hit by nuclear blast. Only kidding! We mixed this up with a copy of Dfairs!

And... cut!

Most Amiga genlocks overlay graphics onto a single video picture, with the option to fade the graphics in or out. In general, that's about as far as they go. This is fine if all you want to do is add some titles or logos to your video productions, but if you're serious about making your own films, you'll need more inputs, more outputs, and more features. The Micro Studio opens up far more options, giving you the power to create professional-looking videos that cut and flow neatly from one shot to the next.

Four wipes are included for transitions between the video sources. They slide one picture over the other, either diagonally, horizontally vertically, or from the top left corner of the screen. They're hardly dynamic, but can add a bit of spice when used sparingly. There's also the option to switch or fade to black and white. This can come in handy for transitions between mono and colour footage, when you don't want the change to be too intrusive.

Chromakey

The main attraction for most users will be the chromakey and luma-key functions. These replace parts of the video picture of a certain colour (yellow in this case) or brightness with the image coming from the Amiga. This is brilliant for creating special effects and abstract visuals. For example, if you were to place your subject against a yellow backdrop, you could then 'key out' the back-

Overlay Sensible Titles

► The graphics features make well, handy for adding titles and credits to your productions.

ground and replace it with the Amiga graphics, transporting your subject into a whole new world. Alternatively, the lumakey could be used on an outdoor shot to replace the sky with Amiga graphics or animations. Slip in a 3D-rendered animation of an alien spaceship behind the skyline, and you've got an instant sci-fi epif!

You're likely to experience some fringing around the edges of your keyed subjects. This can be reduced by careful adjustment of the lighting in the video shot, and fine tweaking of the Key Adjust knob.

Genlocking Amiga graphics on top of video pictures is easily done. The background colour of the Amiga picture is cut out and replaced by the video, which shows through from behind.

Audio mixing

As part of the Micro Studio's mission to give you everything you could ever want in one box, there's a decent audio mixer built in. This offers two stereo channels each of which has its own fader. Either of the stereo channels can be assigned to the audio monitor output phono socket. This works like the monitor output on a DJ mixer, although you can't plug in headphones directly, you'll need to route it through a hi-fi or an amplifier first. Bass and treble controls allow you to tweak the overall sound, and the level of cut and boost is enough to make a substantial difference. Finally there's the noise reduction switch, designed to take out rogue frequencies picked up from camcorder microphones. Sound quality is fine, and the addition of the noise reduction and tone controls is very useful.

Conclusion

The Micro Studio certainly has some mouth-watering features, and in general, they are implemented pretty well. The 'metal effect' plastic casing is quite sturdy, and the fader travel is fairly smooth. One extremely irritating feature is

Check out all those knobs and sliders

WIPES: Four different wipes can be selected, diagonal, square or vertical. These are used as transitions from one video source to another.

KEY ADJUST: The chromakey and lumakey modes can be set according to the amount of colour or light in the video picture, to obtain the best possible effect.

TIME CONTROLS: Run and track controls are included for adjusting the frequency of the combined microphone and two stereo line inputs.

MONOCHROME SELECTION: Allows an on/off switch between a colour and black and white picture as a smooth fade between the two.

PREVIEW: Selects which picture is sent to the separate Preview monitor output, useful for timing cuts precisely.

WIPES AND CUT MAKING AND SELECTIONS: The same controls for general fades and cuts.

CUT: Cuts straight from input 1 to input 2.

KEY INVERT: Switches the position of keyed graphics with the video picture.

NOISE REDUCTION: Optional active reduction system to eradicate unwanted background sounds.

PRE FADER LISTEN: Sends either or both of the stereo line inputs to the audio monitor output, for timing up on mode before taking them onto the videotape.

AUDIO FADERS: Adjust the levels of the three audio channels.

CHROMA/LUMAKEY SELECTOR: Switches between chromakey, lumakey and picture cutting.

that if your video source isn't assigned to the time base corrector, and there's a break in the signal (such as when a camcorder switches from camera to tape mode) your Amiga is likely to crash. If the TBC is assigned correctly, this shouldn't happen, but it's easily done all the same, especially during the setup procedure. The other problem regards regards compatibility with certain Amigas (in our tests, A500 Plus, A1200 and A4000). This was rectified on our second review model with a stop-gap fix, although we're assured that units shipped from now on will include this fix as standard within the box.

Those problems aside, the Micro Studio 2000 is a wonderful tool. The combination of audio and video mixing, chroma end

luma key effects, genlocking, multiple wipes and stacks of inputs and outputs makes this a very powerful bit of kit. Compared to your average £200 genlock, it's not much cheap, but then it really is so much more than just a genlock. The option of S-VHS and composite VHS connections gives compatibility with lower-end equipment, but also takes advantage of superior S-VHS picture quality when available. The time base corrector will be a necessary expense for those using domestic VCRs and camcorders (ie non stable sources). If you use only stable sources however, then you can save yourself some money on the overall price. A TBC can be fitted at a later date if the need arises.

The Micro Studio 2000 comes



► Here's another scene in action, diagonal this time.

recommended to anyone who is serious about using their Amiga to produce professional looking videos. It's also worth noting that it's the only chroma/lumakey unit still available for the Amiga, as RocTec's RocKey has now been discontinued. ■

Tony Horgan



► Here's one of the Micro Studio's inputs in action. The picture of the church tower is fed in from the top left corner of the screen, making out the original video picture frame.

MICRO STUDIO 2000

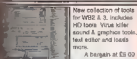
A500	Compatible with all Amigas.
A1000	Any Amiga, and at least one video source (VCR, camcorder etc).
A2000	Any Amiga, and at least one video source (VCR, camcorder etc).
A1200	Any Amiga, and at least one video source (VCR, camcorder etc).
A1500	Any Amiga, and at least one video source (VCR, camcorder etc).
A2800	Any Amiga, and at least one video source (VCR, camcorder etc).
A3000	Any Amiga, and at least one video source (VCR, camcorder etc).
A4000	Any Amiga, and at least one video source (VCR, camcorder etc).
OVERALL	An extremely powerful video production tool.

78



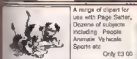
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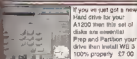
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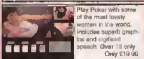
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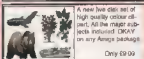
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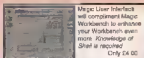
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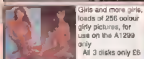
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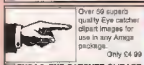
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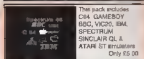
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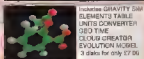
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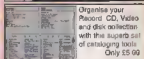
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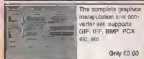
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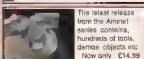
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AMINET 5 March/April '95



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WORLD OF CLIPART CD



A Whole Lot

CDTV

MULTIMEDIA TOOLKIT

A Multimedia Collection for the Amiga CD

CD³²
COMPATIBLEWeird
SciencePublished by
For All Ages

Multimedia Toolkit

Many of the CDs that we've looked at in previous issues have been let down by poor front ends. Most CDs give you nothing more than Workbench, leaving you to fumble your way around the contents trying to find programs to load the files and figure out strange meaningless file names.

However, the Multimedia Toolkit is different. It features a simple menu-driven program that allows you to pick the type of file you want to work with: images, samples, demos etc. Click on this and a list of corresponding files pops up, click on the file and then on an action button (view for instance) and hey presto there's the file. Wonderful!

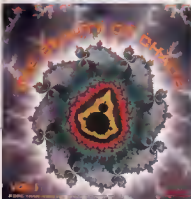
Multimedia Toolkit also contains a wedge of reasonable quality fonts, colour and mono clip art, music modules and samples which are accessed via Workbench. In brief, this isn't the biggest or best collection, but it certainly is the easiest to use.

Weird Science, 1 Rowlandson Close, Leicester LE4 2SE.

Tel: 0116 234 0682 Price: £19.95.

AMIGA

76%



The Beauty of Chaos

If you like fractals you'll just fall in love this disk because it's filled with nothing but fractal pictures. Some of them are impressive, some are rather dull. There are 507 pictures in all of the mandelbrot set. These are saved in mainly IFF or GIF formats and a viewing program is supplied on the disk.

However, we had problems opening many of the GIF files in any Amiga GIF reading graphics program. There are also a number of TIF files on the disk, should you want to see the fractal in more colours (the GIFs store pictures with just 256 colours).

It would have been nice to see a collection of fractal generators on the disc as well letting you explore the world of fractals yourself. And maybe some fractal animations, let's face it we're not pushed for space are we?

If you're into this kind of stuff you'll love it, otherwise avoid.

PD Soft, 1 Bryant Avenue, Southend-on-sea, Essex SS1 2YD.

Tel: 01702 466933. Price: £19.99.

AMIGA

70%



Imagine Enhancer

This disc offers a wonderful collection of fonts, attributes, backdrops, and objects for *Imagine*. There's also a gallery of wonderful pictures all produced with *Imagine*. The disc holds roughly 100 new attributes, 25 fonts, 10 image backdrops, eight reflection maps and 12 vehicles. This isn't much, compared to some of the CDs available, but the detail in the objects, the quality of the attributes and the definition of the fonts makes it worth having. The biggest problem with this disc is that many of the file names are in German (particularly drawers - Bilder, Wolken, etc aren't exactly helpful) but it won't take too long to figure out what they stand for.

If you use *Imagine* this disc is definitely worth having. If however, you work with a variety of rendering programs (*LightWave* and *Real3D*, for instance) then the Amiga 3D Raytracing volumes (reviewed in the March issue) or the 3D Arsene disc (see opposite page) are probably better bets as the offer objects, textures and files for the other Amiga rendering applications in addition to *Imagine*.

Gordon Harwood, New Street, Alfreton, Derbyshire DE55 7BP.

Tel: 01773 836781. Price: £49.95.

AMIGA

87%

otta CDs

Another month has crept up on us and sure enough another batch of CDs arrive in the CU Amiga offices.

PICTURE
Box

ART
BACKGROUNDS
FOR AMIGA A

Art Backgrounds Collection A

One of the problems with many CD clipart collections is that the authors cram the disc with loads of images, and in the race to fill the disc grab images from anywhere, often sacrifice quality for quantity. Sensuous users, however, want quality, not quantity. A better approach would be to cut the number of images, ensuring each one is well scanned, supplied at decent resolution and cleanly edited.

Field of Vision have taken just this approach with their Art Backgrounds disc, it contains just 60 pictures all of which are very well produced. The images supplied are mainly colour tones, atmospheric effects and washes. Each image is supplied in a variety of resolutions (from 128 by 192 to 2048 by 3072) so you won't need to resize them (losing quality in the process) too much. The only downer to the disc is that the images are in PhotoCD format so you'll need to something like *PhotoGenics* to use them. If you're looking for a collection of professional, high quality, abstract, backdrops get this disc.

Field of Vision, 45 Beversbrook Road, London N19 4QQ.
Tel: 0171 263 5054. Price: £40.

AMIGA

91%



Weird Science
AMIGA AND IBM PC
COMPATIBLE

CD Clipart

In recent months I've seen bucket loads of CDs claiming to offer professional clipart for DTP users but in reality offer nothing more than a rather crap collection of black and white, low resolution, pictures.

On loading this disc however I was pleasantly surprised. This disc contains bitmap images, structured images and EPS files. The structured clip art is in the form of ProClips for *ProDraw*, handy for this month's coverdisk. There's also a collection of *CorelDraw* images (not very useful for an Amiga owner!).

The real surprise, however, is the bitmap images. As usual there's a collection of black and white pictures but there's also a large number of Amiga painted colour graphics. These are all impressive quality, looking much like the painted images to be found in old style encyclopedias.

For DTP orientated users the *Weird Science* Clipart disc is well worth having.

Weird Science, 1 Rowlestone Close, Leicester LE4 2SE.
Tel: 0116 234 0682. Price: £9.99.

AMIGA

85%



3D Arena

Almathera have been doing CD discs for a while now, ranging from Amnet collections to professional clip art discs. Their latest CD is yet another collection of objects for 3D rendering packages.

3D Arena provides a collection of objects and textures for *LightWave*, *Imagine*, and *Real3D*. There are also files for *3DSudio* and *DXF* if you happen to have access to these PC based rendering programs.

The objects are of impressive quality, and certainly up to the mark we've come to expect of Almathera products recently.

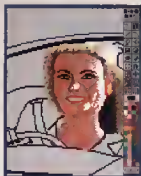
The textures are also very tasty, although I'd like to have seen some more innovative textures, marble, wood, stone etc are a bit common these days.

We'd probably buy this disk because it's got some useful objects on it, although, in our opinion, there could have been a greater variety and choice of textures.

Almathera, Southerton House, Boundary Business Court, 92-94 Church Road, Mitchem, Surrey, CR4 3TD.
Tel: 0181 667 0040. Price: £24.95.

AMIGA

79%



Which Paint

Which is the best paint package when it comes to drawing pictures on a blank page? CU Amiga Magazine goes on a mission to find out.

Creating a picture from scratch is still one of the most satisfying methods of producing computer art. We took the Amiga's four leading paint packages, *Photogenics*, *Deluxe Paint*, *Personal Paint* and *Brilliance* looked at them from the point of view of an artist who wants to paint a picture with nothing more than the mouse, the Amiga, and the software. No fancy scanning tools, no ray-traced texture mapped backdrops, and no composition of digitised video images.

Tools of the trade

All four packages are based around a set of basic drawing tools. We start our test with a comparison of the main tools available to the artist.



Curves

Photogenics doesn't have any curve drawing tools. Curves must therefore be drawn by hand. In certain situations it's possible to use the ellipse and circle functions, discarding the unwanted parts to leave a curve, although this is usually more trouble than it's worth.

Brilliance and *Personal Paint* both have options for normal curves and Bezier curves. Bezier curves are drawn using four points instead of three, allowing lines to be bent through any angle. *Deluxe Paint* settles for normal three-point curves.

Undo features

The undo function is essential for correcting mistakes. *Photogenics* uses a strange kind of undo system. Permanent changes to the picture aren't made until you click on the

Fix button. This allows you to draw for a few minutes (or as long as you like), and then if you're not happy with it, you can delete the whole of the last few minute's work by clicking Undo. You can't undo any changes until they've been fixed. Depending on how you like to work, this can be either a pain in the backside, or quite handy.

The best solution is again offered by *Brilliance* and *Personal Paint*. They both offer multi-level undo/redo. On both programs you can set the number of levels and amount of memory available for the undo. If you have enough memory, these undos can take you back for miles. Once you've used them you'll never want to use anything else.

Deluxe Paint is quite basic on this front. It will undo the last operation only, which can be very limiting. If you are drawing with the icon bar turned off, and then turn them back on to access the Undo button, that key press counts as the last operation, so the Undo does nothing. The way around this is to use the U key to undo when the icon bar is hidden.

Filling areas

The ability to fill an area with a colour, an image or a pattern is essential for any paint program.

Photogenics' best aspect when it comes to filling is the variable tolerance level. This allows you to fill all pixels of a similar colour, rather than only those of exactly the same colour. Otherwise, filling an area of a 24-bit picture would be impossible. However, that's the only fill you get with the fill options.

Brilliance is very good at filling areas with brushes. It can stretch a brush to fit the size and dimensions of any shape. Its gradient fills are quite good too.

Personal Paint has the most useful gradient fill available. Its Shape gradient was used to produce the seats in the picture of the car, and took me about two minutes. The gradients also have the smoothest dithering of any 256 colour package. *Brilliance*'s dithers are pretty much its equal. However, these are *Personal Paint*'s only advantages when it comes to fill. It has no circular fill, no angled linear fill and no decent brush fills.

Palettes

Palette and colour range selection is another important factor. In order to set up a decent gradient from one colour to another you need

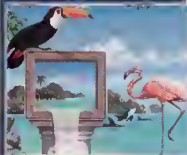
The contenders

PHOTOGENICS 1.1

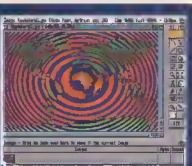
The new boy of Amiga graphics, *Photogenics* is a 24-bit paint and image processing system. Looke like a hot contender with its many simulations of natural drawing mediums.

BRILLIANCE 2

The favourite of many Amiga artists, developed as a direct rival to *DPaint*.



▲ *Brilliance 2* - distinguished for its speed and quality.



▲ *Photogenics 1.1* - some conventional artists with its easy simulation of real life painting materials.

Speed and special effects are *Brilliance*'s strong points.

PERSONAL PAINT 6.1

Personal Paint has found many fans thanks to its speed and flexibility.

DELUXE PAINT IV AGA

It's long been the favourite for most Amiga painters, but has recently lost ground to increasingly sophisticated competition. *DPaint 5* may reverse this.

Package?



▲ Phlogos has one of the best palette selectors, using a combination of a 24-bit color wheel, and a mass of contemporary preset colors.



▲ Personal Paint shows off some of its many image processing options. It can even turn images into Magic Eye pictures.

to define the colours, and set them up as a range.

Phlogos uses the whole 24-bit palette at all times, so there's no need to define a 'sub palette'. However, it has one glowing feature, its long list of predefined colours such as apricot, midnight blue and forest green.

Brilliance has a nice simple palette, and the range selector is OK.

Personal Paint lacks some of the range functions but it has a few tricks up its sleeve. Foremost is the fact that it shows RGB and HSV functions at the same time. It also has better colour spread options, palette merging and colour reduction.

DPaint used to have a really easy range selector (prior to Version 4) which only needed start and end points to be picked. Now you have to pick up each colour and place it on a line, which is limited to 64 colours. The palette is simple enough though.

Image processing

Image processing is the use of special effects to alter parts of a picture – effects such as blurring, sharpening and false colouring. Image processing has been used extensively to produce all kinds of effects. The woman's face and hair (above) went through several darkening processes to produce the heavy shadow effect. The trees were blurred to produce a better motion effect. The road behind the windshield was darkened to account for the effect of the glass.

Phlogos is primarily an image processor, so it scores pretty well here. It has a mass of processes available, which can be used as the paint mode. If you decide you don't like the effect you just used, you can change it to another before it's actually 'fixed' onto the image.

Brilliance has some image processing, though it's strictly limited. All of its processes are set and cannot be adjusted or fine tuned. This is definitely a major downside.

Personal Paint scores best out of the traditional paint packages. It is the original cross-breed. It has image processing features to write home about. It can do anything from hinting to producing a stereo image (random dot 'magic eye' picture). All of the processing can be adjusted to your heart's delight. They work well and you will certainly use them extensively. There are some annoying exceptions like anti-alias, pixelise and texturing, but it makes up for this by letting you edit the functions or even create your own from scratch.

Deluxe Paint dies in this section. It has hardly any image processing features. Tint, anti-alias and transparency are the only notable ones. All of them are really basic.

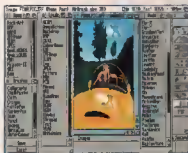
User interface



Ease of use is just as important as advanced features, especially when it comes to keeping the creative juices flowing.

Phlogos almost certainly has the best front end. Everything is in windows including the picture being worked on. This means you can drag things out of your way easily. It also has lots of really neat features, like the screen selector which holds a small cameo of all the pictures currently loaded. Move a cameo to the second box and you can rub bits of it through onto your main image or use it as a texture. It does still have a fair amount locked away in the pull down menus, which is a pity as this is the only use it makes of the right hand mouse button.

Brilliance has a user interface that's been designed from the ground up. Initially the program is a major pain to convert to. After a



▲ Phlogos works in a system of windows, which allows the user to completely customise the look of the various control panels.

while you get kind of used to it and although I doubt I'll ever love it, it does have its advantages. Chief amongst those is that there are no pull down menus. This makes navigating the program so much easier. It also has a little box which constantly tells you what you are pointing at. Neat. The biggest pain for me was the way the menus obscure the screen until you switch them off.

Personal Paint has a similar front end to *Deluxe Paint*. Almost. The major difference is that *Personal Paint* works the way *Deluxe Paint* should. The whole thing feels responsive, the menus are all clear and everything happens quickly. The windows can be dragged around the screen so that you can see what they are affecting. It is modern whilst still being traditional. Anyone familiar with *Deluxe Paint* will pick it up instantly and after a few days be completely hooked. Most of the keyboard short-cuts are the same as *Deluxe Paint* too, accelerating conversion.

By comparison *Deluxe Paint's* user interface is old, clunky and worn out. Far too many options are hidden at deep level within some menu or other. It's still not too far behind most of the others though.

Natural media



The latest fad in computer art programs is 'natural media'. This means airbrushes which work like real airbrushes, chalk which leaves little flaky bits on the paper and watercolours which saturate and almost run.

It also means having the screen behave like canvas, paper, blackboard or another real world surface.

Phlogos is the only one to have these simulated pen and paper types. They work best in high resolutions. If your pictures are going to be rendered in HAM-6 or HAM-8, the fringing can be more obvious in lower resolutions. However, with a bit of practice, some realistic effects are possible.

Deluxe Paint 5 promises some of these. Our October 1994 cover disk demo version of *DPaint 5* allows you to try these out. They use IFF brushes as texture guides, to give the impression of painting onto various surfaces. It's a rather crude system, but can actually work quite well, and has the advantage of allowing the user to create his own, simple by saving out custom brushes into the relevant *DPaint* directory. Neither *Brilliance* nor *Personal Paint* offer these features.

And so we have the results

Photogenics 1.1

Producing the drawings in this feature with *Photogenics* would be tricky. It differs from the other three packages in that it's not a 'what you see is what you get' program. If you want to be able to specifically define each pixel in the picture, you'll have a hard time of it, as you're always painting onto a representation of the actual 24-bit picture.

However, there's so much you can do with *Photogenics* that it's impossible with the others. Top of the list are the simulations of different pens and brushes, which allow very subtle shades to be added with little fuss.

Photogenics is best suited to the artist who wants to output images to high resolution 24-bit systems. If you want to design a title screen for your latest game or demonstration, you'll probably be better off looking elsewhere.

Deluxe Paint 4.1 AGA

Everyone uses *Deluxe Paint*, don't they? In many ways, it's started falling behind the opposition, and the delayed release of Version 5 hasn't helped that. Nevertheless, it does get where it is today without being a damned fine program!

In its favour, it's the standard that all the others have had to live up to. While it does

get beaten by the competition in quite a few areas, no package can boast all of its features. *DPaint* has always been a favourite for Amiga artists, and will continue to be for the foreseeable future.

Once Version 5 hits the shelves (it's due out any day now), it should consolidate its position. A bit slow, a bit quirky, but still up there with the best.

Personal Paint 6.1

Personal Paint has some of the best features of the lot. The user interface is remarkably free of clutter. The image processing is remarkably useful. The ability to edit the image processing functions gives it even more flexibility. Its automatically scaled magnification is very handy. You drag a box over the area you want, and the magnification is calculated appropriately.

Colour reduction and palette merging prove to be incredibly useful too. Multiple brushes changed by a single key press are invaluable. It also has a virtual memory function which seems impossible to live without once you have used it.

Personal Paint may lack certain features from the others but makes up for it by being the best workhorse. It's especially good if you're upgrading from *Deluxe Paint*.

Brilliance 2.0

The star of the computer press, *Brilliance* is somewhat different from the others. It comes

close to *Personal Paint*'s usability but not quite close enough for my liking. The menu system it uses is a big step in the right direction but is a long way from reaching its target. It just gets in your way a little too often.

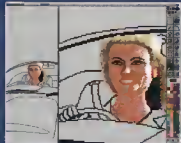
Otherwise, this is the program to go for if you like plenty of features at your fingertips. Almost anything *Deluxe Paint* can do *Brilliance* can do better. It has multiple brushes like *Personal Paint*, it also has the best brush handling. Its ability to fill a shape with a brush is the best I've ever seen.

If you need an art package but can only afford one, *Brilliance* should be it. It can do almost anything. It's a long way from being an ideal tool, but it has the best combination of features and usability.

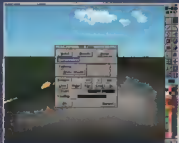
The bottom line

So which one of these well known paint packages comes out on top after all this extensive testing? Can you stand the suspense? Well, just for you here are the results at last, in descending order we have:

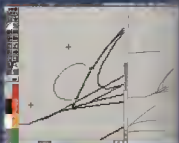
1. **Personal Paint 1.1**
 2. **Brilliance 2**
 3. **Deluxe Paint 4**
 4. **Photogenics 1.1**
- André Digard



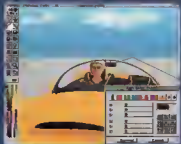
1. *Deluxe Paint* seems to be the answer's best. But as good as *Personal Paint* but still best.



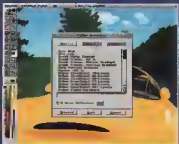
2. *Personal Paint* is a very good option. It can even wrap a brush around an object.



3. *Personal Paint* shows you how a linear curve works. The menu system and a paint program can have.



4. One *Personal Paint*'s unique feature is just that the car is looking bright and shiny.



5. Just some of *Personal Paint*'s many image processing tools. For instance, a car, they can transform into a full picture.



6. A good example: it's a very clear in *Personal Paint* shows a clear and not gradient brush.

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PD

Scene

This month's public domain pizza has an extra thick topping of demos, musicals and slideshows, on a crispy deep pan base of games. Hold the anchovies.

Witness game

This is another game that promises plenty, but doesn't quite deliver. It's basically *Defender* dressed up with digitised pictures of the planets, which form the game's levels. As far as I'm concerned, the best things about the original *Defender* were its speed, the ship's unquenchable laser gun, the brilliant sound effects and the deranged flight manoeuvres. *Witness* doesn't capture any of that particularly well. Fast, unpredictable or intelligent aliens are out, in favour of slow moving blobs that have to be shot multiple times to be destroyed by



your sluggish ship. How about a new improved *Witness 2*?
Available from: Saddle Tramps PD, 1 Lower Mill Close, Goldthorpe, South Yorkshire S63 9BY.
Tel: 01709 888127.
Disk no. CLG 89.
Price: £3.95 including P+P.

58%

Club Mix IV music demo

Featuring substantial samples from Jam and Spoon, Elevator and N-Trance among the beats, Derek Heasley's Club Mix IV has plenty of potential. The seven minute mix chops from one track to the next a bit too impatiently for my liking, sounding more like a TV advert for a dance compilation album. That's OK, but I grate the line at Cotton Eye Joe samples. Please! On well, if you like a bit of pounding Euro techno and you can stand the Rednex interruption, give it a shot.
Available from: Derek Heasley, 8 Hazelwood Grove, Artane, Dublin 5, Eire.

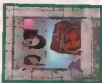
Price: £2.50 including P+P. Requires 2Mb.

65%

Hopefully Dead AGA demo

All of the effects are viewed through a half-screen window in this brief demo from Oxyron. Most of the graphics are pretty chunky, but impressive all the same, such as the wormhole, the fire, the texture mapped vectors and the voxel landscape. I'm told it needs 6Mb of RAM to run, but I suspect it might work with the standard 2Mb and a bit of Fast RAM.

Available from: Freestyle PD, 108 Woodside Wey, 9 Short Heetk, Willenhall, West Midlands WV12 5NH. **Price:** £1.50 including P+P.



70%

Cyberdroid game



Cyberdroid has the makings of something special, with its ray traced sprites and fancy title screens. Unfortunately, the horizontally scrolling shoot 'em up gameplay is

spoiled by two things. First, is the grey colour scheme used for all the sprites and most of the background, which makes it hard to pick everything out. Second is the way the main character is rendered helpless for a split second, every time you turn around or land on a platform. The frames of the rotating droid are all very nice, but while he's performing his little band, you're a sitting duck for the aliens. Apart from that, *Cyberdroid* is a fine little game, and still warrants attention from frustrated zap fans.
Available from: Saddle Tramps PD, 1 Lower Mill Close, Goldthorpe, South Yorkshire S63 9BY.
Tel: 01709 888127.
Disk no. CLG 69.
Price: £3.95 including P+P.



71%

Double Shuffle game

Puzzle games with squares – does it just love 'em? I don't usually, but this one's OK. You're presented with an arrangement of immobile squares and a small number of movable counters.

The object of the game is to move the counters into the positions indicated in the box at the bottom of the screen. You can slide the counters up, down, left and right, but they only stop when they hit an immobile square, so you have to plan your moves carefully. A neat

puzzle game. Available from: Freestyle PD, 108 Woodside Way, Short Heath, Willeehall, West Midlands WV12 5NH. Price: £1.50 including P+P.



68%

Poker Mania game



Cross a fruit machine with a game of cards, and you'd end up with something like *Poker Mania*. You don't play against a computerised opponent – instead you win money according to the amount you bet and the odds for the hand you end up with. To keep it from getting boring, you also get bonus games such as 'Higher or Lower' or 'Find the Ace'. Bright graphics and good sound effects make it an entertaining diversion. Worth checking

out for a bit of fun. Available from: Freestyle PD, 108 Woodside Way, Short Heath, Willeehall, West Midlands WV12 5NH. Price: £1.50 including P+P.



82%



M*A*S*H game

Apparently this game has been in development for two years, so instead of calling it a *Worms* clone, it seems the opposite is true. Either way, *M*A*S*H* is very similar to *Worms*. It's also a bit like *Lemmings*, but instead of saving the little critters, you've got to blow them up! You start at one end of the level, with the enemy at the other. Your aim is to annihilate the enemy base with a barrage of missiles and bombs. In the meantime, the enemy potatoes (yes, potatoes) come charging over the hills to do the same to you.

You have the combined forces of your own potato army, plus a few tanks. There's plenty of violence, but who can condemn a game that victimises potatoes? This is the shareware version. The full version can be obtained for £7. There's also a swirly-patterned freak-tastic kaleidoscope sequence at the start – hurrah!

Available from: Chris Griggs, Sheef O' Wheat, Dunsboyes, Co. Meath, Ireland. Price: £1 plus 50p P+P.

Songs Rack music disk

Nine tracks of chugging techno are on offer here, well produced with clean samples and neat arrangements. Innovation is in short supply, but if you like a bit of melody with your beats, then these should do just fine.

Available from: Freestyle PD, 108 Woodside Way, Short Heath, Willeehall, West Midlands WV12 5NH. Price: £1.50 including P+P.

79%



Anhalonium Lewini demo

The latest from TRSI never quite gets into top gear, although it threatens to as a number of occasions. There are some of those 3D plasma clusters, some shaded vectors, a bit of wobbly text, a handful of dot effects, and a passable techno soundtrack.

Available from: 17 Bit Software, 1st Floor Offices, 2/3 Market Street, Wakefield, West Yorkshire WF1 1DH. Tel: 0924 386982. Price: £1 plus 50p P+P.



60%



88%

Mosaic AGA slideshow

Graphics junkies can get their teeth into the 15 top quality pics on this disk. Most are in a cartoon style, with plenty of colour and lots of nice smooth 256 colour shading.

Available from:

Freastyle PD,
105 Woodside Way,
Short Heath,
Willenhall, West
Midlands WV12
5NH. Price: £1.50
including P+P.

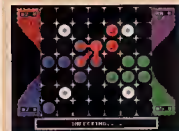


81%

Infection ... games disk

Normally I hate puzzle games with squares, but this is a bit like those already recommended ones, *Double Shuffle*, and here are three on the same disk all getting the thumbs up! *Infection* is a bit like draughts, except four people play at once, and the object is to infect the opposition by occupying the adjacent squares. *Toads* was reviewed in PD Scene not so long ago, and *Confuzion* is a cross between *Pipe Mania* and a sliding block puzzle. Lots of fun for everyone.

Available from: 17 Bit Software, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorkshire WF1 1DH. Tel: 0924 366982. Price: £1 plus 50p P+P.



84%

Istanbul Style slideshow

Not quite as professional looking as *Mosaic*, but a good selection of artwork all the same. *Istanbul Style* is made up of 14 fantasy scenes, most of which include throbbing barbarians, with the odd sword-bearing wench thrown in for good measure. Trolls and monsters also get a look in.

Available from: Freastyle PD, 105 Woodside Way, Short Heath, Willenhall, West Midlands WV12 5NH. Price: £1.50 including P+P.



78%

ZXAM 1.6 spectrum emulator

The latest version of this ZX Spectrum emulator comes in versions for AGA and non-AGA Amigaes (Kickstart 2 and above). Both versions need a 68020 or higher processor. A 68030 is recommended to keep the speed up.

We received two variations of this dish which include different games. The dish from 17 Bit Software comes with the following: *Offie* and *Lisa*, *Pitfall 2*, *Quaxatron 2*, *Rapton Mania 1+2*, *Saboteur*, *Skool Daze*, *Space Harrier 1+2*, *Speed King 2*, *Spy vs Spy* and *Thrust*.

The Kew=ll Software dish includes *Airwolf*, *Atic Atac*, *Bomb Jack*, *Cyclone*, *Knight Lore*, *Manic Miner*, *Spy Hunter*, *Starquake*, *Tarantula* and *Uridium*. Take your pick.

Available from: a) 17 Bit Software, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorkshire WF1 1DH. Tel: 0924 366982.

Price: £1 plus 50p P+P.
b) Kew=ll Software, PO Box 872, South Croydon, Surrey, CR2 9YS. Tel: 0181 857 1617. Price: £1 plus 50p P+P.



88%

PD Utilities

They're calling
it the greatest
piece of
licenseware
ever. Find out
what it is in
this month's
selection of PD
Utilities.

GRAC adventure creator

GRAC is the Amiga's first true graphic adventure creator. No boring reams of text. No repetitive strain injury from too much typing. No dull still backgrounds. This program is designed to make point and click adventures, like *Monkey Island*, *Simon the Sorcerer* and *Beneath a Steel Sky*.

There's no real limit on the number of rooms you can have. You can speak to hordes of characters. Music and sound effects are reasonably well catered for and it can use various fonts. The design and functions of the control panel are left up to you.

Best of all, GRAC has its own scripting language. This allows you to have control over the game. It means you can play an animation when two objects are placed



A. Create your own classic such as *Beneath a Steel Sky* with GRAC.



B. There is no limit on the number of rooms you can have with GRAC - it's up to you.

Guitar Companion musical aid

The main program in this series of five is an old favourite of mine, *Guitar Chord Directory*, which has been updated to Version 2. It's designed to teach guitar chords. It's really simple to use. Pull down a menu, select a chord, and up pop three variations on that chord. Neat.

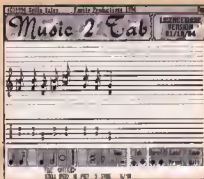
The number of chords has been increased to 276 with 1,008 positions. That probably makes it the most comprehensive list available in any format. Good news for USA users is that the program is now NTSC compatible. It still shows the fin-jenning too. Not a major update, but worthwhile all the same.

There's a companion program too. *Bar Chord Index* shows all of the power chords. It would be even better as part of *Guitar Chord Index*.

There's a simple tuner - a good idea, well implemented but the samples are a bit rough. Then there's *Song Book* - a simple program detailing 22 songs by their chords. Lastly there is *Music 2 Tab*. Pump in some standard music and out comes the tablature.

The only things missing from this compilation are vertical chord diagrams and a Fast Fret style program. This set of programs is essential for any guitarist. When used in conjunction with *Fast Fret* (CLR Licenseware) they make for a killer learning environment.

Available from: PD Drome,
Tel: 0191 584 0917 Price: £5.25 including P+P.



A. The *Music 2 Tab* program from the *Guitar Companion*. A licenseware essential for guitar players.

together, or have a cut scene like in a film, with the action switching to a different location. Or maybe you could have

some object come crashing down when the character walks over a particular spot.

However, there are limitations. There's no AGA support, which is OK if you want to save disk space, but not so good if you want stunning graphics. There's no sprite scaling, so characters won't shrink as they walk into the distance, and multiple player characters, such as the gang in *Maniac Mansion*, would be impossible. Character animation is also rather basic, which can limit the camera angles for your scenes.

The whole thing is admirably rounded off by *Lethal Formulae*. It's an example game on the second disk. Whilst it's not quite Indiana Jones, it is considerably better than some of the old Sierra adventures. It doesn't have too many locations but manages to do vary well considering that it fits on a single disk.

You do need to have a little programming experience to use GRAC. It wouldn't be half as good if you didn't. It will take you a little while to get to grips with it, but then all the best programs do. Every adventure fan should have this. It won't turn you into the next LucasArts, but it will give you just about everything you need to get damned close. To the best of my knowledge this is the first program of its kind on any computer. GRAC is easily the best licenseware title ever.

Available from: F1 Licenseware,
31 Wellington Road, Exeter,
Devon EX2 9DU.
Tel: 0392 493580.
Price: £4.99 including P+P.

87%

95%

Gas Trick bill calculator

Here's a nice simple one. *Gas Trick* is a small program designed to calculate your gas bill. It's written in Amos, designed to be really easy to use. So far so good.

Gas Trick lets you save your workings and load them at a later date. Useful if you got more than one bill or even just like to keep a separate record. It has a good on-line help system. Wherever you move the pointer, the program tells you what that area of the screen does. It's simplicity itself to use: enter the start and end of quarter meter readings, click calculate, and you're given an accurate figure for your gas bill.

There is one major flaw though. You can't change the background figures. If British Gas changes their pricing the program becomes useless.

A VAT change would do the same. *Gas Trick* is a good program while it lasts, which may not be for long. Let's hope version two is a little more configurable (and includes electricity too).

Available from: Roberts Smith DTR, 190 Felldown Way, Hampstead Garden Suburb, London NW11 6JE. Tel: 081 455 1626. Price 90p plus 50p P+P per order.

50%

Music 104 music utilities

An unusual disk this one. It can't quite decide what it is - it's trying to be useful to everyone. The featured program is *Composer*, an easy to use music notation program. It can do just about anything in the way of putting music onto a stove. It can even play the result. Unfortunately, none of its support files are included on this disk which is bad news as the program just refuses to work properly without them.

Hunter III is a music ripper. It looks through memory for sound samples or *SoundTracker* modules, which can then be saved out to disk - useful for borrowing tunes and effects from games and demos. Also included is *SuperPlay* a standard *SoundTracker* module player.

Inlay Maker is designed to print out inlays for your cassette collection. Just type in a list of the tracks and print. Nothing to write home about. Last is *DSound*, which plays sound samples from RAM or direct from a hard drive.

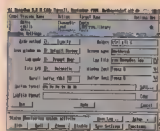


As cool as cassette inlays, Inlay Maker from the Music 104 disk. Simple but effective.

Available from: Roberts Smith DTR, 190 Felldown Way, Hampstead Garden Suburb, London NW11 6JE. Tel: 081 455 1626. Price 90p plus 50p P+P per order.

30%

Little Blue Plastic Disk various utilities



A Screenshot 3 from the 'Little Blue Plastic Disk' The only one of its kind. Get these utilities programs today.

SnoopDOS 3 is a must for anyone who regularly compiles disks. It tells you what program files are missing if a program doesn't work. Lastly there is *MFormat 1.2*. It's a replacement for the standard Workbench disk formatting program. It does useful things like automatically installing the disk. It can't really replace format as it doesn't have a CLI option and won't format PC disks from scratch. Still good if you format lots of Amiga disks though.

There are also three real goodies. *Installer v1.24*, Commodore's install program now with Workbench 1.3 compatibility.

SnoopDOS 3 is a must for anyone who regularly compiles disks. It tells you what program files are missing if a program doesn't work. Lastly there is *MFormat 1.2*. It's a replacement for the standard Workbench disk formatting program. It does useful things like automatically installing the disk. It can't really replace format as it doesn't have a CLI option and won't format PC disks from scratch. Still good if you format lots of Amiga disks though.

Available from: Roberts Smith DTR, 190 Felldown Way, Hampstead Garden Suburb, London NW11 6JE. Tel: 081 455 1626. Price 90p plus 50p P+P per order.

75%

Virus Workshop 4.6 virus killer

Back to the essentials. For a little while now *Virus Workshop* has been the most comprehensive virus killer around. It's aimed squarely at people who know their Amiga.

Beginners and experts should head for *Virus 2*. *Virus Workshop* is for the technically adept user.

The options it presents are comprehensive to say the least. It will do anything from a simple boot block search to checking the operating system vector. It has full support for hard drives, and there's a mass of documentation on hunting viruses.

This is the virus killer to get. Beginners might do well to get it so that they can learn more about the Amiga. This program is full application, so if you just want a little program that pops up in the background, again, head for *Virus 2*.

Solid, reliable and trustworthy. This is the program to get if you suspect an infection. It will track down everything unusual.

Available from: Freestyle PD, 106 Woodside Way, Short Heath, Willenhall, West Midlands WV12 5NH. Tel: 01922 710985. Price: £1.50 including P&P.

80%

17 BIT Software Est 1988.

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workshop

DIRECTORY OPUS 98 ●

How to make *Directory Opus* 4, our February 1995 coverdisk, even smarter by getting it to automatically load files into applications

PROCALC 100 ●

Spread-master Andy Leeming shows how ProCalc's complex and IF functions can be combined to solve difficult spreadsheet problems

BUYERS GUIDE 101 ●

It's all a question of credit in this month's Buyers Guide. Our resident shopping expert gets the credit for writing this month's column, while you can get credit by reading it

GRAPHICS MASTERCLASS 102 ●

Peter Lee reveals the secrets of mixing pictures together using the powerful composition tools of *Photogenic*

MODELER 3D 105 ●

In the last of the *Modeler 3D* coverdisk tutorials, handy tips for 3D object creation are included along with the remaining menu functions

SUBSCRIPTIONS 106 ●

Don't miss out on the amazing coverdisks and special offers we've got lined up, turn to page 106 now

VIDEO IDEAS 108 ●

On yer bike! Tony Horgen checks out the wonderful world of colour cycling. Round and round we go

BACK ISSUES 110 ●

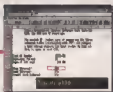
Missed a great issue? Here's your chance to catch up!

FAQ 119 ●

John Kennedy answers many of the most common questions surrounding the fascinating world of the Internet, modems and comms

SOUNDLAB 122 ●

Tony Horgen pushes Amiga hardware to the limits as he reveals how to make your Amiga sound like it has much more than four channels



Over the coming months you should notice several new columns appearing along with the return of some popular ones. Comms, for example, should see a welcome come-back next month. New columns will include a Creative Corner page covering the serious fields of creative computing (word processing, spreadsheets, databases etc). If there's something special you'd like to see in our workshop section Email or write to us at the usual address.

Regulars

Q&A 116

The questions and answers crew are ready to answer your most challenging technical questions yet

O&A MASTERCLASS 120

Less is definitely more as Mr Kennedy finds out when he delves into the tight spot that is compression software.

BACKCHAT 124

What's on the minds of Amiga users around the world? Users from across the globe voice their opinions, views, hopes and fears.

POINTS OF VIEW 128

What's this? Mr Internet himself slogging off bulletin boards? Surely not! Quick, rush to page 128 to find out more.

Directory Opus

PART 3

In this month's tutorial learn how to teach Directory Opus to act intelligently, automatically loading files into their relevant applications.

Last month we showed you how to set up buttons to load your most commonly used programs. However, there's an even quicker way of loading those programs, which doesn't involve creating new buttons.

It's possible to configure *Directory Opus* to load specific applications by clicking on files in the directory windows.

For example, you could tell *DOpus* to automatically decompress any files with a DMS extension.

Alternatively you could have *DOpus* load your word processor whenever you clicked on files ending with a WP extension. The

files would then be automatically loaded into the relevant application.

DMS decompression

As an example let's set up *DOpus* to decompress DMS files in this way. DMS is the compression program used for our cover disk programme. You'll find it in the C directory of most of our recent 'technical' cover disks. It's no problem if you normally use a different compression system, as this example can easily be adapted to work with alternative programmes.

DOpus doesn't automatically understand the concept of a DMS file, so we need to tell it

what to do. In this case we need to create a new file type, so select File Type from the Configure menu and click on New. The requester that appears lets you choose the type of operation that the new file type will carry out. In this case it's an AmigaDOS style command so click on AmigaDOS Program.

From the next requester, click on the button to the right (labelled Edit Class). Yet another requester pops up. In the middle of this one you'll see a line called File Class and next to it another field called Class ID. Change the text in the first one to DMS Compression and the next one to DMS. Having done this click once on the word Match In text field below - it should turn red and the cursor will be placed in another text field below this that is now orange. In this field erase what's already there and type in:

*.dms

On the same line as this instruction you'll see magnifying glass. Click on this and in the new requester that appears click on the line that reads MatchName and finally press Return.

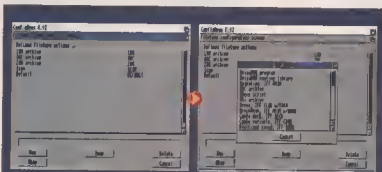
File types

What you've just done is set up *DOpus* to watch out for files of a certain type. In this case it's now looking for filenames that end with the extension of DMS. The operations we're about to set up will only be carried out on these files. This allows us to perform selected operations on specific types of file and we can check for files in a wide variety of ways.

In this case the *.dms line you typed was a file name pattern. You could type any AmigaDOS wild card pattern here. The MatchName reference tells the program to take this pattern and compare it with the selected file names.

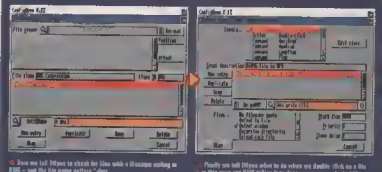
You'll have noticed other types of comparison in the requester that appears when you click on the magnifying glass. From here you can tell the program to watch for files only on a specific date, time, or that have comments and so on.

Now you can click on OK. Next you can define the operations that are carried out when what actions the user needs to do to open them. In our case we want to invoke the



1. Click then from the File Type requester (available under the main Configure menu). We're going to define a new type of file so click on New.

2. Select the AmigaDOS Program as we're going to define an AmigaDOS action - so choose DMS.



3. Now we tell *DOpus* to check for files with a DMS extension so we type *.dms - see the file name pattern 'dots'.

4. Finally we tell *DOpus* what to do when we double click on a file - so this time we tell *DOpus* to decompress so we select DMS.

program when a DMS file is double clicked

In the box next to the word Events - click on the line that reads Action Double-Click in the field below this box labelled Event Description, type in something to the effect of 'UnDMS files to DF0'. This text is just for your own notes, so it doesn't really make any difference to the actual operation.

We've now told *Directory Opus* that whenever you double click on a file it should check to see if the file name has DMS at the end of it. If it does it can perform an operation we're now going to specify.

Click on the New button on the left-hand side, half way down the screen. A cursor will now appear in a text field just below this Type In.

Don't write (F)

Don't press Return just yet. Instead click on the button to the left of this field, changing the operation type to AmigaDos (just like we did in last month's tutorial). Now in the box next to the word Flags move the scroll bar down and click on the line Output Window. You can finally press Return and click on the OK button.

All being well you should now see the windows we saw at the start, just before clicking on the New button. This time however you'll see a new line added showing the new DMS file type.

Click on OK and then on the next OK button that appears. You'll now be back in the main *DOpus* screen.

Try it out

Cross your fingers, because it's now time to try it out for yourself. Insert a recent CU Amiga Magazine cover disk into a drive and copy a file with the DMS extension from the cover disk to the RAM disk. To do this move the mouse pointer over the left-hand window and click on it once.

Move the mouse pointer down to the buttons in the bottom left-hand corner and click on the one labelled DF0. Now move the mouse over to the right-hand window and click once, and then click on the button

called RAM. In the left-hand window you'll see several files, one of which has the letters DMS at the end of it. Click once on this file and then click on the button below labelled Copy.

Now remove that disk and insert one you don't mind overwriting - making sure it's write enabled first. After a few minutes you'll see the DMS file appear in the right-hand window. Move the mouse pointer over the file and double click on it. A window will appear and up comes the DMS program, which decompresses the file to the floppy disk. This may take a while on some Amigas.

You've now added the DMS file type to *DOpus*. If we wanted to we could have set up a button to do the same thing using the examples from last month. Why not have a go? In the case you'd click once on a file and then on the button. The result

would be the same - but double clicking on the file is simpler. Once you've understood what's going on, have a look at the other file types that come supplied with *Directory Opus* and see what else is possible. The best way to get to grips with software is to experiment. There's very little you can do to permanently damage your Amiga using software, but just be careful when you're deleting files.

Next month we'll explore some of the menu function configurations.

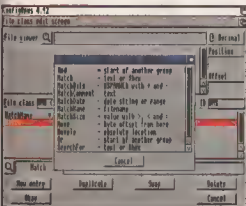
Andy Leaning

Directory Opus 5

This tutorial covers *Directory Opus* 4, the world's best Amiga utility. This was given away on the February '99 issue of CU Amiga Magazine. To order Version 5 of *DOpus*, which looks like being one of the best releases of 1999, call Wizard Developments on 01332 272000. It should be available by the time you read this.



▲ With *DOpus* and DMS installed you have easy access to a world of CU Amiga cover disks - like ComicSector from the January issue



▲ When checking a file *DOpus* compares it to a search pattern it's been previously given. Here you can see over 600 types of search patterns it can handle.

ProCalc Tutorial

PART 3

Thinking about buying a peripheral and want to work out who offers the best interest rates? It's easy with ProCalc - we show you how.

This month we show you how to build a handy little spreadsheet that allows you to compare interest rates from various sources to find best rate of return.

A typical example would be if you were to compare the interest rates offered by a bank, a hire purchase company and a credit card to find out which is best for you. Although it might seem obvious at first, deferred payment and deposits can make this a fairly complex process for the human brain to handle. ProCalc, however, eats such calculations for breakfast.

The first step is to set up a spreadsheet with the three different payment terms (see figure one). Here we enter the start date, the initial price (£299), the number of months over which it will be repaid (24 months) and any deposit required. We also enter the percentages for the three financial lenders, in this case the shop, the bank and the credit card company. The rates I've used here aren't meant to be realistic, so don't try finding them in the high street.

Note how percentages are entered as '19' for 19%. You can set the display for currency and percentages using the numeric format option under the format menu.

Get to work

Notice how we only enter the amount, price and repayment period data once. We'll be spending this amount and paying it back over the same period of time no matter where we go, so there's no point in creating it three times.

Having entered this data we can now put ProCalc to work. In figure two we use the PMT function (as shown last month) to work out the

monthly repayments given the data we already have. Three PMT functions are used to calculate the repayments for the shop, bank and credit card. As the shops will often let us put down a deposit, the shop's PMT arguments differ from those of the other two, with the deposit being subtracted from the total amount to be spent first (see figure two).

Adding deposits

We've now got all the information and in most cases it will be obvious which lender offers the best terms. But if deposits come into play it gets a bit more difficult. Let's put ProCalc to work and get it to work out the best deal.

Here we use an IF function (covered in earlier tutorials). We need to test the three rates of return, to find out whether the shop, bank or credit card company is the lowest. Thankfully using nested IFs, or one IF function inside another, and string arguments this can be done. The complete IF function reads:

"=IF(E13<A14,IF(A13<E15,"Shop","Credit Card"),IF(E14<E15,"Bank","Credit Card"))"

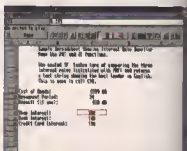
This asks if the shop offers a lower rate than the bank. If so then it compares what the shop is offering to the credit card and then returns a string - 'Shop' or 'Credit Card' depending on which is the case. If the first question returned false, then the bank offers a better rate so this is then compared to the credit card and the better of these two is now returned - 'bank' or 'credit card'.

If the IF words are put in quotes, this ensures that the words will be displayed in the cell. Figure three shows the results of this function. Try changing the percentages and the initial deposit. All being well the cell containing the IF function will change to show which is the lowest interest rate charger.

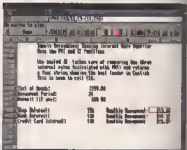
And there you have it. Although not the most vital spreadsheet in the world this example does start to show some of the real power of ProCalc, using the program's powerful financial functions to work out otherwise complex sums, and then using it's IF functions to identify the best option for you. Figure four shows the results when deposits come into play and works out what is best for you in that case.

Next month we'll be giving the world of high finance a break and exploring some of the program's other capabilities. ■

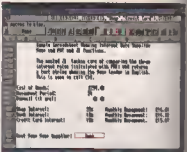
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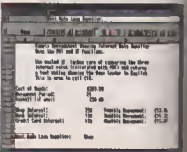
▲ Figure one: setting up the payment terms.



▲ Figure two: here the PMT function works out the monthly repayments.



▲ Figure three: here an IF function finds out the best of three rates.



▲ Figure four: a deposit can alter the calculations dramatically.

Keypad Problems

Several readers have experienced problems using the numeric keypad of the A1200 and A4000 with ProCalc - our November cover disk. It will work with the keypad which can be used for either cursor control or to enter numbers.

To use the Numlock hold down the Shift key and the Numlock key. As you do so you'll see a message appear in the window title bar saying Numlock is turned on or off. For data entry, turn numlock on. For cursor movement turn it off.

Buyers Guide

**BUY NOW
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**Instant Credit
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**TYPICAL EXAMPLE: Amiga Monitor £100.
Monthly repayments £10
for 12 months with repayment £100.**

**CALL NOW FOR
DETAILS**

Buy now pay later might sound ideal but there are pros and cons to purchasing goods on credit. CU Amiga Magazine looks at both sides of the coin.

credit companies' rates. You may think that saving 10% over a year is small change, but just consider that it could also buy you something extra for your Amiga – a 400dpi mouse or a RAM board, for example.

Then of course there's your flexible friends. We've covered the advantages of buying on credit cards before so I won't dwell on this. But one point to remember is that credit cards often offer the best of both worlds. Instant availability, average interest rates and protection if things go wrong.

At the end of the day the choice is yours. There are certainly times when it's worth paying extra. For example, if an end-of-line model is going for a song or if the bank refuses you a loan (even if you have a perfect credit history). But if for whatever reason, you do decide to buy on credit tread carefully – it's easy to take a wrong turning and end up in an uncontrollable debt situation.

Interest free

However not all credit deals are rosy pitfalls waiting to drag you into the arms of the debt collector. There is such a thing as interest free credit which means you can still borrow the money to buy the goods instantly and pay it back over a period of time, but you don't pay any extra for the privilege – that's no interest – it's free!

This really is customer care. The shop is making it easy for you to purchase the goods without

any disadvantages. This is the best arrangement and is increasingly common amongst big retailers.

Another payment scheme appearing is delayed credit, the 'buy now pay later' scenario. Here you pay a deposit, get the goods and only start paying for it at a later date. These are invariably hire purchase arrangements, where you pay more than original price. This approach is very popular with large household goods (freezers, HiFi etc) but is now starting to appear in the Amiga market.

Just like hire purchase check the amount of interest that you will have to pay as well as the principle is the final amount payable. It may be tempting but is it really worth paying hundreds more? Could you get a better interest rate from your bank? This month's ProCalc (page 100) tutorial shows you how to calculate the interest payments and find the best credit deal. ■

Andy Leaning

Walk into any shop these days and you'll find hundreds of bright notices tempting you to part with your

money. One of the most favoured mechanisms that high street retailers use to lure you into spending your ready with them is credit.

To some people instant credit can seem like a dream come true. It all sounds so simple. You see something, a monitor for instance, you want to buy but your current funds won't allow it. Enter instant credit and you can have the item you want that second and pay the company back at nice affordable monthly installments. All you have to do is fill out a few forms – simple. Or is it? There is a catch: You must pay interest on the amount borrowed and unfortunately the interest rate is generally fairly steep. You may thus end up paying way over the odds for the item that you are buying.

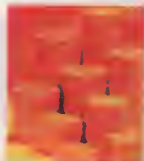
For example, most interest repayments are described as 'Typical APR 25.5%'. This means

you pay 25.5% more than the price of the goods. Watch out for this. The higher the percentage the more you pay. In a quick survey of interest rates advertised in the high street and dealers the average interest rate hovered around thirty percent! If you are looking to buy via credit shop around and see what the various interest rates on offer are, the difference can be surprising.

Is it worth it?

But if you haven't got the cash readily available and want a new printer or monitor surely paying a 'little' extra is worth it. After all you won't notice the difference in the monthly payments and you get to use that shiny brand new Microvite monitor and AGA screen modes now rather than in 18 months when you've finally saved up for it.

Well yes, it can be. But there are other options. Why not take out a bank loan to pay for it? Bank interest rates (whilst still being steep) are generally lower than



Graphics Mas

PART 2

One of the most powerful image processing abilities of Photogenics is Composition; with it you can blend two images together seamlessly. CU Amiga Magazine explains the technique.

This month, a two in one tutorial, the rudiments of text manipulation within

Photogenics and our first attempt at image processing. The aim is to convert a digitised picture into something which looks like an artist's sketch. If you glance at the finished item now, you'll see just how close we can get using the most basic of skills.

Unlike most other art packages, text is created in its own image window in *Photogenics*. On the plus side, this means you can transform it in any way you like before committing it to your main picture, the downside is that you have to go through a number of steps before you can actually

place your text where you'd like it.

For the first part of the tutorial we're simply going to write our text, and turn it into highlighted gold lettering. On the way we'll learn about missing, mode effects and placement.

Start *Photogenics* and from the pull down menu Images select Open as/Other, and choose the Text loader. The font we're using came with the software, so it will be listed in the directory of fonts (provided you installed it with the program), it's called Stengren and we want to use it at size 74.

You must enter your text before it's rendered, so type in the words star profile, and OK that. The text is now drawn into a separate window, or buffer as it's

called. As it stands now, you could copy this onto another image window, but we want to add some sparkle to the lettering, and to do that we need to make a mask (which is another name for stencil - something which protects certain areas of a picture).

From the Project menu, select clone and a copy of your text is created on screen. We will smooth this new image to give it more subtle 3D characteristics so, from the Image menu, select Blur/Gaussian Blur and choose a radius of four. Once it's completed this lengthy task, select the original text window, and make this the Alpha (or mask) image by pressing key 3, a miniature of the picture will locate itself in the

Alpha box at the lower right of the screen in the images toolbar.

Text effects

Now we begin work on our text. Select the blurred image, and click up the Mode requester, click on Emboss, then on the Fill screen-gadget (the white tool above the word Fix on the menu toolbar) and watch as the words take on a raised, solid look. 'Fix' this effect now, as this saves the on-screen changes, and allows you to experiment to get the best look for the text.

Try the Antique mode for a gentle glowing effect, or how about a Gradient Fill to simulate gold, by using yellow as the palette colour. To create a dappled, stone-like quality you could try the Add/Dust or Add/Noise modes, to try anything out, the Mode, then click on the fill screen icon. If you're not happy with the results, Undo the procedure (click on the icon to the right of Fill Screen) and start fresh.

As with anything in



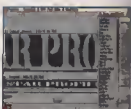
1 The text is entered and the top window shows an enlargement after applying a Gaussian Blur. The original text image is below.



2 The original text becomes the Alpha Channel, or mask image. Select Emboss from the modes menu and the text takes on a metallic, 3D look.



3 Once the Emboss has been Fixed, you can play with the Modes command as much as you like. Here shown in Antique look.



4 At a dappled effect perhaps to create that stone age look? The Finestones would be proud of your efforts.



5 Or how about propelling yourself forward in time and giving her a cast-chrome effect, achieved with the Selection mode.



6 However, I'm always keen for gold, and this is achieved really easily with a golden yellow colour and the text settings above.



7 Once the text is in the Secondary image slot, call up the Composite function. With Left Point set, the end brush can be moved and re-sized.



8 Now, extreme close up. This magnified view shows the text as the best close-up picture, just above the model's head.

sterclass

Photogenics, if you like an effect, you must 'Fix' it before going onto something else or you will lose your changes. Frequent saves are also recommended because you'll find yourself developing ideas on the fly which you may want to change later. Going back to a previously saved image can be a life-saver.

Once you're happy with the text, save it. For the record, my text uses a yellow gradient till. Move the icon representing the completed text image, as shown on the bottom display bar, to the slot marked Secondary at the far right. You can delete the Alpha image now, as it's served its purpose in protecting the area around the text from being altered.

Next job is to load in an image onto which we can position the text. For this tutorial, open up the *girl.jpg* file which comes with the program. It shows a rather refined woman, but of course you could load in any digitised image, for the time being though, stick with this one.

To add our golden text to this new image, move your text image icon into the Secondary slot, and select the Image/Compose option; this brings up a requester, and also superimposes the text onto the colour picture. Using the mouse you can position the text anywhere on screen, place it directly at the top of the screen. Note the handles on the corners of the text image box; these allow you to re-size the image horizontally or vertically.

You'll notice that I retained the black background on the text, as a severe contrast to the image. But don't worry, if you're wondering how to simply place text on screen, we'll clear that problem up in a short while.

Once the text is placed, OK Compose, then 'Fix' the image and save it.

Artwork

For this second part of the tutorial, we're going to simulate artwork using the powerful mode and drawing tools in *Photogenics*.

The first step in our art-forgery is to get rid of the image colours; we're aiming for a pencil/charcoal effect after all. So using the filled rectangle tool, drew out a box starting below our text (which we want to leave intact) and including the remainder of the image. From the Modes menu, select Greyscale. Once the image is converted to monochrome, 'Fix' the changes and save it.

Now from the Mode menu, select LineArt, and drag out a similar filled rectangle to remove many of the in-between greys leaving us with an outline and a touch of subtle shading.

'Fix' the changes you've made when you're happy with them, and add a shadow behind and to the left of the woman's head by using the filled polygon drawing tool in AddDust mode. Set the dust count to a value of 12% to get a nice, strong textured shadow. To set a Mode value, click on the tool to the right of the Mode button.

To add a 3D effect to the

image, you can Paint with a white coloured chalk/pastel brush (size 6, pressure 39%, Transparency 38%) on the cheeks, forehead, chin and lips. Check out the illustrations to see what a difference this makes, bringing the 'dead' image to life.

'Fix' the changes and save. The final touch is the Mystery Girl text. As I mentioned before, here's how to make the background of the text invisible: use the Text loader, and using the Bodacious font type your words.

In the same way as we added the Star Profile text, make the new text your Secondary image and Compose the new text onto our artwork, but this time ensure that the boxes next to Brightness key and Use Paint mode are ticked. That way just your text will be painted on to the image. And once again, you can move and re-size the text before you commit it to the drawing. NOTE - brush type and settings affect the way images are composed. ■

Peter Lee



1 Once the image has been grey-scaled, we can turn it into Line Art, but one side of the picture has been treated. Areas which not!



2 Here, the whole image - apart from the text, which we want to keep intact - has been completely processed.



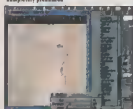
3 As you want, you can simulate a grainy paper for our 'drawing' by adding a little dust to the image, as here.



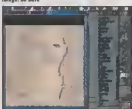
4 The stage shows the addition of a shadow to the left of the head, done with the filled polygon tool in AddDust mode.



5 This may not appear to be much, but I applied a light Airbrush colour to the picture. Using white and black/pastel emphasises the face's highlights.



6 It's almost finished now: all we need is just a small design to make it look more realistic as a drawing.



7 And that's to remove some patches of the lower edge of the image, so it's where I stopped drawing.



8 Finally, the ghosted text, as applied by Composing a text image with Brightness on the bar in the Compose requester.

Modeler 3D

PART

2

The conclusion to our Modeler 3D tutorial looks at the remaining menu options and dishes out some tips for serious modellers.

Following on from last month's look at some of the Modify menu commands, we conclude the series by concentrating on the remaining options from the Modify menu, along with some general tips for 3D modelling. We're jumping straight in where we left off last month, so it might be a good idea to have a quick scan of part one of this tutorial before you get into this one.

Merging points

The Merge Points function is used for reducing the number of points in an object. This has the combined advantages of speeding things up and saving memory. It looks at every point in the object and compares it to every other point. If two or more points are closer than 1/1000 of the total object size they are replaced by a single point. This distance can be altered with the Merge Distance function.

Merging points can be quite time consuming with large objects, so you get a progress bar to let you know how long you're going to have to wait.

The next option, Quantize, is useful for creating odd symmetrical shapes. This moves every

point to the nearest grid intersection. In the screen shots shown below I used it with a globe to create a edged satellite type shape. Use the Grid menu option to change the grid size.

The Array command creates duplicate copies of selected points and polygons. It can create as many copies as you require and offsets each copy by a fixed amount that you can specify. Once you've done this you may need to use the Autoscale option to resize the objects so they can all be seen on screen at once, as a shortcut press the A key.

That's it for the tutorial. If you've got a 3D rendering program, *LightWave* or *Imagine* for instance, you can have a lot of fun with *Modeler 3D*. Whilst it lacks the power of the dedicated modelling tools built in to these applications, in some instances its simplicity makes it faster to use. If you don't have one of those programs, then we hope this has given you some insight into the wonderful world of 3D modelling.

Using VideoScape 3D

In November 1992, CU Amiga Magazine cover-mounted the fifty

TRICKS AND TIPS

To finish off the series here are a few tips and tricks we picked up whilst using *Modeler 3D*.

The key element to creating realistic 3D objects with *Modeler* is understanding the program's many tools, and as usual, experimentation will bring rewards. Play around with it and learn what the various functions do.

Once you've got an understanding of the program you can then start thinking about constructing complex shapes. Look around you at everyday objects and try to imagine them not as one complex image, but as a collection of lots of smaller shapes. How would they all fit together?

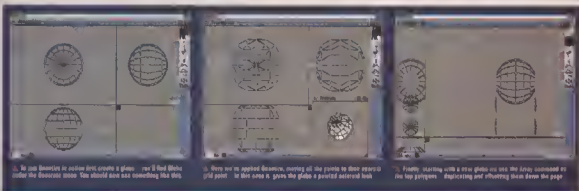
Other tips include keeping the number of polygons to a minimum whenever possible. Try to get into the habit of using large polygons (this saves processing time), and use Merge Points whenever you've used Quantize or another function that's likely to result in overlapping points. When you do use Merge Points, try to select an area first - it will save you lots of waiting time.

To save time when building up objects, save common objects and build up a library. When you've established a reasonable library you'll be amazed at how quickly you can knock up new shapes. If you want to move a point, first select it. Now hold down the Shift key and click where you want it to be moved to - for individual points it's quicker than the Move Points tool.

program *VideoScape 3D*. If you've got this you'll be chuffed to learn that *VideoScape 3D* is the companion program to *Modeler 3D*. You can load and animate your *Modeler 3D* creations in *VideoScape*. To do so save your objects

as Binary (ie click on Save As -> Binary). Now load *VideoScape 3D* and load your binary *Modeler 3D* file. Following normal *VideoScape* procedures you'll be able to move it around and animate it. ■

Andy Leaning



1. Use the *Quantize* in active first creates a globe - now if I find *VideoScape* under the *Quantize* menu. You should see something like this.

2. Here we've applied *Quantize*, moving all the points to their nearest grid point. In this case it gives the globe a pixelated spherical look.

3. Finally, starting with a new globe we use the *Array* command to give the polygons - duplicating and offsetting them down the page.

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Video Ideas

Colour Cycled Effects

Live up those drab videos and graphics with some rather excellent colour cycling effects.

Tracers

It's easy to create a motion-blur effect with colour cycling. For this example, set up a range of 16 colours, so that the first 10 colours are black (assuming that you also have a black background) and the following six colours fade from black, through grey, to white. Turn on colour cycled drawing mode and select the first colour in the range as the pen colour.

Using a small brush and either continuous or dotted drawing mode, have a quick doodle on the screen. The lines you draw will be invisible in places, but then fade back into view for a short length, before disappearing again. This is because 60% of the line is drawn in black (on a black background), while the rest is drawn in white and shades of grey.

Now press the tab key to start the colour cycling. You'll see the white 'head' of your line tracing across the screen, with a gray blur following in its wake. This can be used to simulate rein, fireflies or tracer bullets. Alternatively, you can just use it as an effect to exaggerate or stylise any part of your animation. The screen with the tin men running across it is an extension of this basic technique. When you press the tab key, you get a stream of little people running across. Instead of using a normal brush, the trails were drawn with an anim brush. If you want to replicate this, remember to switch to colour cycled drawing mode after you've loaded your anim brush.



▲ The little men were drawn by dragging an anim brush across the screen using colour cycled painting. Once colour cycling is turned on they run right across the screen with trendy little motion-blurred wakes behind them.

Paint programs such as *DPaint*, *Personal Paint* and *Brilliance* allow you to define a range of colours within the palette. These colours can then be 'cycled', so that each colour in the range is changed to the colour of the one preceding it. The colours are shunted along the sequence, with the last colour moving to the first position in range. When colour cycling mode is turned on, those parts of the picture drawn with these colours appear to throb or move. The effects you can achieve are ideal for livening up videos or any of your graphics. Here's a run down of the effects available

Fairground Lights

If by any chance you want to create a fairground-style notice board effect, complete with flashing lights that run around the border, then this is your lucky day! Select gridlock mode and a circular brush. This brush will be the template for your light bulbs, so scale it accordingly. Select cycled drawing mode, and paste down your light bulbs around the edge of the screen. The gridlock will keep them all evenly spaced and in line. If you want a bit more realism, you can make up a little highlight using a non-cycled colour and add this to each of the bulbs.



▲ Fairground-style flashing lights are easy to draw and animate with a circular palette. Hit the tab key to start the colour cycling around the screen.

**Come to
the
CIRCUS!**

Time Tunnels

This has got to be the most instantly gratifying use of colour cycling. You'll need *Deluxe Paint*'s symmetry functions to get the most out of it, although simpler effects can be done with other software.

Here's the plan. Set yourself up with a range that graduates smoothly between two or three colours. Turn on colour cycled drawing and select dotted drawing from the icon bar. Pick a nice big round brush, by selecting a small one, and dragging it out to about 2cm in diameter. Click on the symmetry icon from the toolbar using the right mouse button.



▲ Experiment with different symmetry settings from within *Deluxe Paint*, then draw random patterns for instant time tunnel effects.

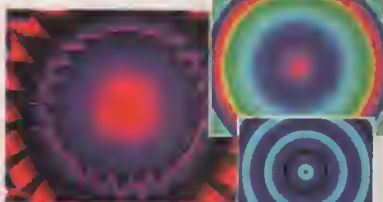
appear in a circular formation around the centre of the screen. Click OK to get back to the main screen.

Now you can start drawing. It's best to move the mouse quite slowly, as the computer has its work cut out drawing 60 copies of the brush each time you move. If you move too fast, you won't get a very smooth gradation. It's best to keep the colour cycling off at this stage (not to be confused with cycled drawing mode, which should still be turned on) as it slows things down even more. As you move the mouse in or out of the screen, the trails form a set of concentric circles. When you start colour cycling (with the tab key), the circles appear to move in or out of the screen, depending on how you moved the mouse.

The other method is to use the filled circle drawing tool. Click on this with the right mouse button to call up the options. Click the 'cyl' button, move the dither slider to the left, click the random tick box and then click on OK. Move the pointer to the middle of the screen, and pull out a circle that fills the screen.

Move back to the centre and press the left button. This will now draw a series of circles from the middle to the edge of the screen. Press the tab key to see the move.

Experiment using different brushes, colours and symmetry settings. Also try turning the lights off and playing some spacey music for a nice and relaxing experience.



This brings up the symmetry options. Choose either 'cyclic' or 'mirror' in this case. For a simple tunnel effect, change the number in the 'order' box to something high, such as 60. This gives you 60 clones of your brush, which

▲ Hypnotic thrashing patterns work as themes are as simple to do and even to file with colour cycling.

Weather Forecast

The TV weather forecast graphics are getting a bit flesh these days, but at a push, you can still do similar things with your Amiga. Scanning a map or using one from clip art collection should be no trouble. The clever bit is using colour cycling to animate your weather symbols.

Save your map in a screen mode that uses half the amount of colour you have available. For example, if you can work in a maximum of 32 colours, save the map as a 16 colour image. This leaves the rest of the palette free for you to draw the symbols. Some of these colours need to be cycled, so it's important that they're not used for the map graphics, otherwise the map will appear to glow in places.

Change the number of colours to maximum, and load the map back in, retaining the currently selected screen mode (don't change it to that of the map). On a spare screen, draw your symbols and use the 'tracera' effect as explained in the Tracera panel to draw in and out of the clouds. Save the symbols as a single screen. Now you can cut them out, jump over to the map screen, and paste them on where you like. Press the Tab key to animate the rain and snow. ■

Tony Hargen



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How You can be Rich within 3 years

My name is John Scott. Let me briefly tell you my story. Five years ago I was broke, living in a cramped rented flat and driving a rusty old Ford Escort. My clerk's salary was not enough to survive on, and I was sliding into debt. I felt like a total failure. Things are very different today. I now own a large five bedroom house, a top-of-the-range Mercedes, a BMW 511 Cabriolet, and my wife and I usually take three overseas holidays each year (we have just recently returned from a superb two weeks in Thailand).

I went from being broke to a millionaire within 3 years (certification available). Have earned more than £3 million in the past five years - not by dreaming or wishing for wealth but through hard work, trying various techniques - making mistakes along the way, but learning hundreds of little known secrets in the process.

So how come my drastic change in fortune? In the beginning I purchased almost every book available that promised great wealth through plans or schemes that required no work, but I soon discovered the information was worthless. I believe that most people seeking plans that promise to show you how to make money using little or no effort make this a money on the books and plans themselves - not on the formula outlined in those books.

Five years ago I was lucky enough to meet and become close friends with an amazing forty two year-old self made multi-millionaire. He taught me that it is not just how hard you work that counts as many people work hard all their lives yet have nothing to show for it. He shared with me his most closely guarded secrets. By closely following his advice I became a millionaire within three years. You now have the chance to share in my success because I am making two very special guides, unlike anything else you will have seen - or will ever read - available to you!

1. THE STREETWEAVE WAY TO WEALTH

Some time ago a friend of mine who had recently lost his job, aware of my success, asked me how he could do as I had. I revealed to him my methods. The results were amazing - despite the having no previous business experience he made £3,150 during his first month after following my advice and now earns quite a substantial income. His first major step was to find a complete step-by-step guide that will enable any one, regardless of their age, sex or education, to earn an exceptional income - provide they are at all of average intelligence and prepared to work hard and learn new ideas.

I have called this guide THE STREETWEAVE WAY TO WEALTH (A4 format, 96 pages illustrated. Price £20 postpaid). It shows how the person can start to make serious money - it's all easier than you may think and you don't have to quit your job to start. Obviously you will want to test it first. I will show you how to get started in your spare time at home. Don't think for one minute that you can do it - I'll prove you can. I will reveal to you the money-making secrets that no one else will tell you. What I reveal is worth many thousands of pounds and if acted upon will make you financially secure for the rest of your life.

This is not some phony "get rich quick" scheme of the type commonly available. The information and secrets I will teach you are those that I have used myself every day since the last five years. I will tell you exactly what to do and how to do it. I even supply you with actual names and addresses of useful contacts.

2. HOW TO LEGALLY AVOID EXCESSIVE TAXES AND BUREAUCRACY

It is hard to imagine any economy without some necessary taxes and regulations. But we are now burdened with so many taxes, councils and regulations that the average businessman's biggest expense is paying off the taxman, while his time is increasingly taken up having to deal with senseless bureaucracy.

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It will also show you how to get the guaranteed cheapest air tickets, how to fly tourist class but get first-class advantages and how to pay the very lowest rates at top class hotels. You will also be given tips and guidelines for getting in authority and power and ultimately for developing an ability to make money and live freely. "THE FREEDOM HANDBOOK" is like no other book ever published and there are many people and new organizations who will not like the fact that all of these secrets have now been revealed. To order either of both manuals use "FREEDOM FREEDOM" on a piece of paper along with your name and address and the list required. Enclose a cheque/PO for the correct amount and send it to my publishers CASTLE LTD C/O CJA PO, Box 13, St. Helen, Jersey JE4 80Z, Channel Islands. Credit card holders may phone (01534) 61781 anytime.

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You may ask why I'm willing to reveal all my insider secrets? Well, simply because your success is in no way my threat to my own and of course all those who order my material will be helping to increase my own wealth. Almost many of you will probably seek for that consolation and division from me as your wealth rapidly grows and the consolation less and so to my fortune. But then why should you care? I make a profit so long as I show you how to achieve financial freedom? And I promise I will.

I've said everything I can say now it is up to you. If you apply my secrets I guarantee that they will bring you wealth. If I'm wrong all you've wasted is a few minutes and a postage stamp. But if I'm right? 30 days from now you can be just another million- dollar or you can be on your way to a better life. You decide.

DISCLOSURE STATEMENT: On the basis of my professional relationship with John Scott over the past five years I can certify that the above statements are true and factual and that I am not aware of any action in excess of one million pounds. M. Thelwell, Accountant.

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- **DN THE DISKS:** ComicSetter, HyperCacher, Flight of the Amazon Queen demo and clip art. Plus free ComicSetter manual.
- **FEATURE:** Create art for



FEBRUARY 1995

- **DN THE DISKS:** Directory Opus 4, Crystal Dragon demo and some handy utilities.
- **FEATURE:** Make your Amiga Fester for under a tanner.



MARCH 1995

- **DN THE DISKS:** Modular 3D, Easy Ledger demo, Valhalla Before the War demo.
- **FEATURE:** Hook up your hi-fi and video to you Amiga for brilliant sound and action.



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- **DN THE DISKS:** MovieSetter, clip art and Fifa International Soccer demo. PLUS free MovieSetter manual.
- **FEATURE:** Animation made easy.

APRIL 1994

- **DN THE DISKS:** Adoraga, Task Force, Master Virus Killer, King's Quest V1 and Dots.
- **FEATURE:** Turning Ideas into money.
- **INSIDE:** Damomania, Imagina 2.0, Darknara, Naughty Dnes, King's Quest V1, S...

- **FEATURE:** Amiga Graphics and Video...
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JULY 1994

- **DN THE DISKS:** GB Route, plus playable demos of Elfmania and Valhalla.
- **FEATURE:** Upgrading Your Amiga
- **INSIDE:** DPS Per Card, Montage, Perger and HiSoft Basic 2, Banhsaa, Valhalla, Elfmania and a first look at Scavenger.

AUGUST 1994

- **DN THE DISKS:** Art School packages, Craft 2 Turbo, plus a playable level from Icar 31
- **FEATURE:** Music - your easy guide to creating top tunes
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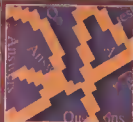
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TONY HORGAN
There's lots of genlock and VideoTracker queries this month - my favourite.



ANDY LEANINO
And I get to answer the ProCalc enquiries - just the job.

IDE information



I have just got myself a 4" Connor CFS420A 420MB IDE Hard disk drive. It is actually meant

for an IBM PC but since it is an IDE standard drive, I assume there should not be any major problems getting it to work with my Amiga A1200.

However, I need a cable to connect it to my Amiga as the IDE interface on the A1200 and the drive are of different sizes, as you are probably aware.

Please show me how to make such a cable or where I can get one from (in the UK). I know that the four pins on the right are for the power supply. I have no problem getting an external power supply for the unit but I am not sure how to connect the other 39 pins to the 44 pins on the A1200 motherboard. Please please please help me. I shall be forever grateful if you could solve my cable problem.

Incidentally, I have also just acquired a modem. Is there any way I could E-mail you guys over there?

Eric Hoi,
Malaysia.

Turn to page 32 for the answer to your hard drive problems. You can E-mail us at:

camargo@ele.computlink.co.uk with any views you may have.

CAD questions



I am studying Autocad Release 12 part time at collage and would like to know if I could

run it on the Amiga, and if so where I can purchase the above

program. I have asked some of the big suppliers who advertise in your mag but they cannot help me. What are the system requirements I would need to run the program and print hardcopy? I have an A1200 with 130Mb hard drive, Power 2nd drive, Commodore 1081 monitor and 120D printer.

If this program is not available for the Amiga could you tell me if there is another program available which has the same functions and commands?

Roy Best,
Lowestoft.

Autocad is not available for the Amiga, but there's good news. The December 1994 issue of CU Amiga Magazine came with a complete fully-functional version of X-CAD designer, plus a full manual. You can order a copy from our back issues department, on 0858 468883. X-CAD Designer runs on any Amiga with 1Mb of RAM or more.

Should I wait?



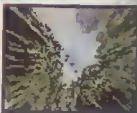
I own an Amiga 1200 and have a couple of questions, I would like answered

1. Is there an MSX emulator for the Amiga?

2. I am thinking of buying a CD-ROM drive for my Amiga. Should I buy the Zappo CD-ROM drive or wait for Commodore's CD1200? Would it be worth the wait?

1. There's no MSX emulator available for the Amiga.

2. Don't hold your breath for any official Commodore products. The CD1200 is unlikely to appear for some time, so take your pick from the Zappo and Power CD-ROM drives.



VideoTracker 2.0 AGA



I want to thank Peter van Campen and, of course, all of you at CU Amiga Magazine for

VideoTracker 2.0 AGA [coverdisk 94 of your November 1994 issue] - it is a software masterpiece.

I am using it on my unexpended Amiga 1200. After watching the Copper Megabyte 3 AGA example video, I was completely amazed by this powerful routine, but I haven't managed to use it with a brush other than the Composite brush on the VideoTracker disk. Is there a certain format my brush must have: am using DPaint IV AGA? Or are there any width or height limits?

Christos Batzlos,
Thessaloniki, Greece.

The brush needs to be in HAM-6 format, with a maximum height and width of 256 pixels by 256 pixels. As long as those requirements are met, there shouldn't be a problem.

Hawk RAM board



Does the fully populated Hawk RAM board disable the PCMCIA slot?

Peter Rooney, Ireland.

It worked fine with PCMCIA peripherals in all of our tests.

Genlock heartbreak

I am writing to you on the subject of genlocks. I have an Amiga 1200 and I am becoming a bit concerned about the state of the Amiga peripherals market. In particular genlocks. I was in the market for a genlock for my Amiga to go with the rest of my video equipment so I went to my local Amiga dealer and asked what was on the market at the time. I was told there was a new genlock out by Amitek. This had been advertised in most Amiga magazines as 'Amitek Professional Genlock' for all Amiga computers, so I purchased my new genlock, wired it up as per the instructions, powered my machine on and... and... nothing happened. I was faced with a blank screen. The power light was on but nobody was home. I unplugged the cable from my extra drive, the genlock and my printer and tried again, still nothing. By this time I was looking for the insurance documents for the Amiga because I thought it had blown up. I then realised that I had left the cable from the genlock still connected to the computer and phew, the Amiga was still with me. I presumed that at least I had found the fault, a dodgy lead!

A couple of days later I received a new lead. This did exactly the same as the first cable, so I asked my local dealer to try the genlock on one of their computers. It did exactly the same on their A1200 and A500.

The next day I received another genlock, which we tested in the shop, but this too failed to run. By this time I was getting very annoyed. I was refunded my beer tokens and shot off to a camera shop that I noticed had a second-hand Rocgen Plus for sale, only to be told that this would not work on the A1200.

I was now beginning to wonder whether any genlock would work on the A1200. I ventured back to my local Amiga dealer to pose this question to him. He was unsure as this was the first time he had noticed the problem. He then offered to sell me his Rendale 8802 FMC because he was due to change his. This works perfectly all right until you put an external video source to

the CVBS In connector. When this has been done the RF signal goes black and white but the genlock signal is still colour.

Does any genlock work correctly on the A1200? Are the genlocks tested on all Amigas as it is stated on the adverts? Do magazines that test genlocks and other peripherals test them on all Amigas?

Anthony York, Northampton.

Firstly we can assure you that CU Amiga Magazine thoroughly test the products that we review, although we can't comment on the testing procedures of other Amiga magazines. Depending on the type of product, everything reviewed goes through a battery of tests to check for performance, ease of use, value for money, and how they compare to competing products.

The Amitek genlock in question for instance was tested on several Amigas, and indeed failed on an A1200. On further investigation it was found that the genlock had a problem on the A1200 and the genlock manufacturer assured us that a revision had been made to the circuit board so, that models now shipped don't have this problem. A second unit tested showed no sign of the fault. This was all reported in the review on page 92 of the March issue. It's probable that you were unlucky and got two early models.

The Rendale and Rocgen genlocks should also work on the A1200. Try calling Silica on 0181 369 1111. They're the main suppliers of Amitek products and also have a technical support team who should be able to iron out your hardware problems.

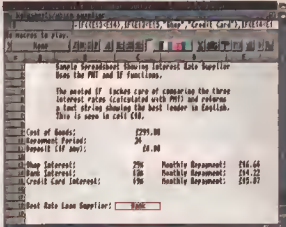
ProCalc



I buy this magazine regularly and was very pleased when the ProCalc spreadsheet appeared in the November issue. I missed the December issue but bought January 1995. I checked out several newspapers to try to obtain the December issue. Is there any way that the tutorial for ProCalc (Part two) can be obtained? Is there any way I can print what is shown on a screen? I have tried to print out graphs from ProCalc but can't use the drop-down menu for printing. Can a keyboard command be used?

Mrs Clarke, Wigan.

If you click on the Output function



▲ Click on the Output function in the Project menu in ProCalc and you can print out our problem.

under the Project menu you'll be able to print out your spreadsheets. For graphs go to the 'File' menu and select Output. You'll then be able to print them. You can order a copy of December CU Amiga from our back issues department, on 0858 468848.

Accelerated trouble



Since buying an Overdrive Hard Drive unit over a year ago I have been trying to find an accelerator card for my A1200 that will allow 8Mb or more fast RAM to be added without disabling the PCMCIA slot. I have written to a number of magazines (including CU Amiga) but to date no one has published my queries. Hardware retailers have given me lots of conflicting advice (even from different branches of the same organisation).

In your FAQ section on accelerator boards in the March 1995 edition you mentioned this problem so I was surprised to find your review of the Blizzard 1230-III. In the same issue I failed to indicate whether this board was PCMCIA compatible. I appreciate that when reviewing hardware it is impossible to test all hardware combinations for compatibility but in the case of the A1200 accelerators popping something into the PCMCIA slot surely would not be too inconvenient.

Now that there are PCMCIA interface hard drives, CD-ROMs, SCSI interfaces, samplers and others of the 4Mb memory limit/compatibility problems of certain boards is a point of utmost

importance when choosing a model. Would it be possible for CU Amiga to test A1200 accelerator boards for PCMCIA compatibility in the future? I'm sure it would be useful. Could anyone let me know of a compatible model?

Paul Davis, Somersat.

The problem of PCMCIA card and accelerator incompatibility lies in the Amiga operating system using the same area of memory for both—so they conflict. The solution is for developers of the accelerators and PCMCIA peripherals to work around the problem, as Phase 5 with their Blizzard cards and HiSoft with the Squirrel have done. Sadly it's not easy to test this in reviews as each card and PCMCIA device is different, and without testing each and every card we couldn't give a definitive answer.

However we are looking at ways of testing for PCMCIA compatibility and will hopefully announce this in an imminent issue. In answer to your immediate question the Blizzard card will work (with 8Mb RAM) and an Overdrive. ■

NO SAES PLEASE

We regret that we cannot respond to readers' queries by post or over the phone. Please do not include addressed envelopes with your letters, as we simply don't have time to answer the thousands we receive. Responses are only possible through the pages of the magazine.

THE

FREE UPDATE  FREE UPDATE

THE ONE SENSIBLE WORLD OF SOCCER

**FREE
UPDATE!**

Yes, it's true! The official Sensible update disk, getting rid of all those unwanted bugs and niggles in Sensible World of Soccer, will be **free** with your next copy of **The One Amiga** magazine! Sellotaped to the front of the May issue, on sale **28th of April**, the update will come in a blue, attractively square package, just ready for you to slot into your Amiga. Simple!

Kills all known SWOS bugs, dead!



Frequently Asked Questions

CU Amiga Magazine gets to grips with common modem questions.

■ Q. I want to get 'online'. What should I do?

■ A. First, you'll need a modem. The modem is the device that transmits data through the telephone network linking you to the Internet, where you can dial anywhere in the world for the same price as a local call.

■ Q. What sort of modem should I get?

■ A. There are internal and external modems. The internal sort are bare circuit boards designed for IBM PCs. Any external style modem will work with the Amiga, all you need is a standard RS232 25 way cable to connect it to the serial port. Some PCs have 9 pin serial ports, so check your leads. Try to buy the latest modem that you can afford; don't get one slower than 14,400. If getting a fast 28,800 modem ensure it supports the V34 standard (rather than the Vfast).

■ Q. What software will I need?

■ A. Modems always seem to come with PC software in the box, which is no use to the Amiga. If you buy your modem from an Amiga dealer they will probably include a disk with several Public Domain/Shareware programs such as *Neomym* or *Term*. You can also buy a program such as *Termite* (available from HiSoft, tel: 01525 719181, reviewed in CU Amiga Magazine, February 1995). All of these will let you log onto a BBS.

■ Q. Will it work as a fax machine?

■ A. Nearly all modem modems will operate as fax machines but you need the necessary software. Although modems

come bundled with fax software, it's generally PC stuff. The choice of Amiga software is limited to *GPFax* (First Computer Centre, tel 0113 231 9444), *TrapFax* (Blittersoft, tel 01908 220196) and some PD utilities. Check, before you buy a modem, though, as some will not support faxes.

■ Q. Will any Amiga work with my modem?

■ A. Any Amiga can drive a 14,400 baud modem with no problems. A 68020 or a higher based Amiga (such as the A1200) is required for reliable 28,800 baud connections. There are several programs around which claim to speed up access. A500 or A2000 owners might find these useful.

■ Q. What's the difference between the Internet and BBS?

■ A. A Bulletin Board is a site where groups of users communicate with each other about common interests. You can swap messages, transfer files etc. The Internet is a world wide network of communication lines set up by the US military, which can be used for free transmission of data. It links thousands of BBSs around the world.

BBS come in two flavours: commercial systems and non-commercial systems. The commercial boards charge fees and include companies such as CompuServe (tel: 0800 289378), Altam (tel: 0324 666336), CIX (tel: 01492 641 961) and Dalphi (0171 757 7080). The non-commercial systems are a lot smaller, but usually free.

On the Internet you can use tools such as FTP (for downloading programs), Telnet (for logging into remote computers) and Mosaic (for using the World Wide Web). The Internet is fast, if you

send an electronic mailmessage to someone, it will reach their site in a few seconds. To use the Internet you need to either get a dedicated account with a company such as Darnan, or use a gateway through a BBS such as CIX, CompuServe or Dalphi. The dedicated account allows you to run mail, nets and Web programs on your Amiga, rather than using text-only programs on the gateway system.

■ Q. Which should I try first?

■ A. Try some of the amateur Bulletin Boards listed to the right. These are all systems which are part of the FidoNet network. FidoNet is a network which includes tens of thousands of Bulletin Boards, all sharing mail. You can post a message to a FidoNet chat area using your local board, and everyone else will be able to read it the next day or so. Most boards also have file areas with all the latest Public Domain software for you to download.

■ Q. I have a modem that works at 14,400 baud. I've set my comms software to work at this speed but nothing happens. What's wrong?

■ A. Although the modem will claim to work at 14,400 baud it works faster due to the data compression algorithms. Most 14,400 modems will only recognise speeds of 19,200 baud. This might sound confusing, but there are two different speeds at work. First, there's the modem's transmission speed to the modem at the other end of the telephone. No matter what, this will remain at the modem's stated speed. In this case 14,400 baud. However due to the data compression the amount of data being transferred is higher, so the speed of the link from the modem to the computer is about 19,200 baud.

John Kennedy

My own board

■ Q. I want to start a Bulletin Board. What software do I need?

■ A. Now you've opened a can of worms... there are several programs to choose from. Some, like Max's BBS, are Public Domain. Some like XenoLink are commercial (available from the Darkside BBS). The best thing to do is ask around, and log into as many boards as possible to see what features are offered.

Board name: Heart of Gold
Modem number: 01247 274919

Board name: 1024 BBS
Modem number: 01952 - 419864

Board name: The Slimelitte BBS
Modem number: 0181 230 1566

Board name: Slimelitte BBS
Modem number: 0181 230 1566

Board name: Backyard BBS
Modem number: 0181 424 2065

Board name: Etherel Canal
Modem number: 01707 275 567

Board name: Darkside BBS
Modem number: 0181 771 9100

Board name: Autopilot BBS
Modem number: 01332 660 766

Board name: Amnesia BBS
Modem number: 0151 806 1984

Board name: Crooked Spire
Modem number: 01246 551 626

Board name: Frost Free BBS
Modem number: 01484 842 341

Board name: Shades BBS
Modem number: 01670 787672

Board name: The Lakes BBS
Modem number: 01768-866059

Board name: Zeons Lair
Modem number: 01768-599420

Masterclass



▲ This is what your Workbench could look like if you installed Magic Workbench. Notice that all the drawers have been altered so that you can tell what is in them before you even open them next time.

Following on from last month's discussion on data compression, we take a look at the much-used LHA system.

Last month we touched on data compression, and how it can save on disk space and downloading times for modem users. The standard Amiga archiver has always been LHA, which you can see for yourself if you log onto a BBS and see all the files ending with the .lha suffix. You'll find the LHA program itself lurking on magazine cover disks or on your local BBS, and you should add it to your collection of Amiga utilities as soon as possible.

Recently a new archiver called LZX has been popping up a lot in FidoNet conversations. LZX promises to run faster and work better than LHA, so of course it deserves some attention. You can download LZX from the usual on-line places (such as the Amnet, which is where I got it) and Bulletin Boards such as Cretans (modem number 0181 8859887). It is used in

exactly the same way as LHA, that is, from the Shell with commands like

```
lzx my_archive #?.iff
```

This will bundle up all the files in the current directory ending in .iff and store them in a new file called my_archive.lzx. In order to check out the claims for LZX, I performed the following tests. First of all I archived ten large IFF image files (which usually don't pack up well as they are already encoded slightly) and secondly I archived a pile of text files.

	Graphics Files	Text Files
Original Size	6284520	2284752
LHA Size	5063205	805418
LHA Time	2m 03s	0m 44s
LZX Size	5018080	710674
LZX Time	1m 59s	0m 48s
LHA version 1.38, LZX version 1.00		

As you can see, in both cases the LZX compression was slightly better — especially with text files. The time difference however was minimal (and slightly worse for the text files). Whether or not a change over to the LZX system is merited remains to be seen. An update to version 1.01 is expected 'real soon now', and this will be worth checking out. In any case, if you find that you need to pack up a lot of data it will be worth you while to see if LZX makes any difference.

Interestingly, both these coding systems rely on the LZW (Lay Zempel Welch) compression system, which was at the heart of the recent 'CompuServe to charge for GIFs' stories you may have read in the computer press. The GIF graphic file standard belongs to CompuServe and it uses LZW, which was developed by Unisys. LZW belongs to Unisys, and they want to get some money from it, hence the proposed GIF-tax. It will be fun to see Unisys try to get money for all the programs which are compressed with LHA or LZX.

Workbench icon replacements

Have a look at the nice Workbench pictures shown on these pages. Look a bit different from yours? Well, unless you have *NewIcons* installed on your Amiga, it should. Like Magic Workbench, *NewIcons* is a set of replacement icons to smarten up your Workbench display. Also like *MagicWB*, it's available from the Amnet/Intamat site and many BBS and Public Domain libraries.

Many folk are worried about using new icons, especially as some users have reported unexplained crashes. First of all, the original programs like *MagicWB* contained icons which were only that — icons. When you look at any files stored on your disks, you'll see files ending in .info. These are the files which contain the information the Amiga uses to display the little graphics. They are not programs in their own right, and are stored separately from the programs they are associated with. The Workbench clock program for example actually has two individual files: the program itself and the info icon file. Without the .info file there would be no icon display but the program could still be used (either from the Shell or by using the 'Display All Files' option from the Workbench menu). Thus there is no way that the new icons themselves could interfere with the program. If things do go wrong when experimenting with icons, there are a few things that should be checked.

1. Icon type

Icons are classed into different types, in order

to inform the Amiga's operating system if it is working with drawers, desks or programs. If you copy an icon from a program file and make it into a drawer you may forget to alter the type, with odd results. You can check the type by loading the icon into the Icon Editor program supplied on the Workbench Extras disk.

Remember that if using the Workbench 3.0 Icon Editor that it sometimes goes bonkers and saves a large outline around your images. If this happens, your only recourse is to use the Workbench 2 editor, or a third party program such as *Iconian* (available from the usual Public Domain libraries /shareware outlets).

2. Tools

The .info file stores the graphical data, but it also has a secondary purpose: storing tool types. If you examine an .info file using the Information option from the Workbench (highlight the icon and press Right-Amiga), you might see a list of tool types associated with the icon. This method is used to customise programs: for example, you might want the program to use certain screen colours or certain keyboard shortcuts.

If the program has been written to look at the tool types then these can be changed to reflect your own purposes. The stock size is sometimes set from within the .info file as well – the stack is the amount of memory which a program is allocated. Problems can arise if you simply replace one icon with another: you might overwrite the .info data and lose all these settings. If you are changing icons, remember to look at the tool and stack settings first. The Install program with *MagicWB* and *NewIcons* will try and retain all these settings and therefore there shouldn't be any problems.

3. Disk and memory usage

All the new icons are considerably more detailed than the standard icons and so use up more space. For the best visual effect you can run your Workbench with more colours than you are used to (8 or 16). This will use up more chip memory than normal which can lead to problems on unexpanded systems. If you are running totally from floppy, you'll have to think carefully about using an icon replacement scheme as it will slow things down ever so slightly and use more memory.

Beat the system

NewIcons works slightly different in that it virtually re-writes the way the icon system works. It adds some programs to you: start-up sequence and alters the system to display the new images. It sounds a bit extreme, but it has the advantage of fixing the short-comings with the Workbench palette system. Have a look at the example pictures and if you decide you like what you see, either get the file from the Amnet or local BBS or PD library.

The newer versions of *MagicWB* also includes some 'active' parts, specifically some programs to make sure the palette is organised sensibly. As you can see from the images, the end result is very sneezy.

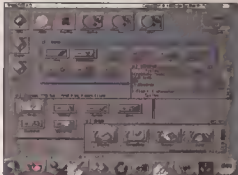
although unless you can display a DblPAL or Multiscan image on your monitor you may find your screen starts to become a little too cluttered.

I'm quite happy with this set-up, which is a collection of bits and pieces I've collected over the years. And by the way, the line of icons which appears in several of the *ToolsManager* program. This provides you with an easy way of leaving programs out on the Workbench – especially handy if you have a hard drive. As with all the programs mentioned here, keep a look out for it on-line or from your library.

Wallpaper

Something else you should watch out for is the Wallpaper collection. There are hundreds of well drawn textures for you to tile as a background pattern. They range from the usual mottled shades or gray to pictures of that girl from Twin Peaks who everyone apparently fancied a while back. These patterns are widely available so try 'em out. None are quite so tacky as 'Sexybench!' which includes several, in my opinion, very poor Manga-style cartoon drawings of the female form. Not the sort of thing you want on your Workbench when our Lisa walks into the office. ■

John Kennedy



▲ Magic Workbench looks particularly well when used with a nice shaded backdrop pattern. Use the mouse to select the texture of the screen, stored with *ToolsManager*. Each tool icon is an IFF heap, so you can create a system that looks exactly the way you want it to look.



▲ This is the demo picture which comes with *NewIcons*. Instead of shading, the icons are a more 80/2 style bolded image. They may be a little on the large side if you don't have a high-res large screen mode.



▲ In my Workbench looks a little cluttered at the moment, thanks to the Wallpaper texture I'm trying out in the background. Think I'll look the Lisa's Campaigner and go back to good old marble.

Soundlab

Make four sample tracks sound like fourteen, with some cunning mixing tricks.

Face it, four tracks are never enough. Even the most minimal compositions easily can eat twice as many sample channels, so how on earth are you going to compete with professional 32-track productions? With a bit of ingenuity and some clever tricks, that's how.

The first time you laid down a drum pattern using a tracker like *OctaMED* or *ProTracker*, you probably put the bass drum in one track, the cymbals in another and used up the remaining two channels with snare and assorted percussion arrangements. In an ideal world or an expensive studio, that wouldn't be a problem, but it is in this case, as that's just taken care of your entire sound output capacity.

Although the Amiga can play no more than four internal samples at once, it doesn't mean that it can only play four sounds at once. As far as the computer is concerned, it makes no difference whether each sample is a recording of a single bass drum, or an entire orchestra. Replaying the orchestra sample puts no greater

strain on the Amiga than playing the bass drum — after all, they are both just sound waves. You can use this fact to your advantage, to make your Amiga sound as if it's playing far more samples than it actually is.

Mixing samples

The basic trick to learn is sample mixing. Drum patterns can often be squeezed onto a single track by mixing the right samples together. Before you get started, it's a good idea to make up a new set of samples from your standard drum samples. Load up the basics, say a bass drum, a couple of high hat cymbals, a snare drum, a crash cymbal and a hand clog. Using all four tracks, build up the kind of rhythm you're after. Now look at the block, and see where two or more samples are played at the same time. These are the samples that you'll need to mix.

Keeping your original samples intact, copy the waves into blank sample windows and use the sample editor's 'mix' function to combine them. It's likely that

there will be parts where the bass drum sounds with the high hat, but another place where the bass drum sounds with the high hat and the snare drum. In this case, you'll need to make two new samples.

However, although it might seem obvious to combine the bass drum, high hat and snare drum for the second sound, you could leave out the high hat without making any noticeable difference. Certain sounds use similar frequencies, and so mask each other out, as is often the case with snare drums and high hats. Each time you combine sample waves, you lose a little of the definition from both sounds, as they both have to share the same space. Reducing the amount of mixing will help keep the fidelity of each individual sound.

Depending on the sample editor you use, your mixed samples may come out at half the volume of the original waves. Check for this, and if they need boosting, amplify them accordingly. Usually a 200% volume boost will get them back up to their original volume. Once you've got a string of combined drum sounds, save them out for future use.

Now you can create a new block, and using the initial four track drum pattern as a guide, you can recreate the rhythm on a single track with your new samples. The only places you might need to use two tracks would be when there's a sustained sound, such as crash cymbal, which overlaps with a following sound. In this case, you'll need to use an extra track.

Breakbeats

Breakbeats, complete drum loops, are very effective at saving tracks. A whole percussion arrangement can be contained in a single sample, and if you want to break away from the monotony of a continuous loop, you can always chop it up and rearrange it. What can save yet more

tracks, is combining basslines or riffs with your breakbeats.

This sounds complicated at first, as you would need two identically pitched loops in order for them to match up, but you don't actually need two loops, just the breakbeat and a single bass or synth sample.

The trick is to make use of your sample editor's pitch change or re-sample feature, and mix re-pitched copies of the synth or bass sound into the breakbeat.

Using two tracks, lay down the breakbeat and your baseline or riff. Once you've got this running, jot down the order and pitch of the notes in your baseline. Use your sample editor to make re-pitched copies of the bass sound for each different note in the baseline. This is so that you can mix these samples into the breakbeat sample.

Now set the block playing, and call up the breakbeat sample window. As the sample is played, you'll see a scan line running through it. This tells you which part of the sample is being played. Listen for the notes of the baseline, while you watch the sample scan line. It's likely that the notes will sound as the scan line passes the peaks of the breakbeat wave. Watch to see where the scan line is on the breakbeat wave for each note of the baseline.

Copy the first baseline sample and then move to the breakbeat sample. Zoom right into the position where the note occurs, highlight the area, and click on 'mix'. Now get the next bass sample into the copy buffer, and mix it into the next spot on the breakbeat wave. Repeat this right along the breakbeat, until you've overlaid the whole baseline. If necessary, boost the volume of the mixed sections. You now have the drums and baseline on a single track, leaving the remaining three for now sounds. ■

Tony Horgan

Combining basslines with breakbeats...



Use peaks as guides for inserting re-pitched notes

Back chat

Got something you want to say? Write it down and send it to CU Amiga Magazine, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

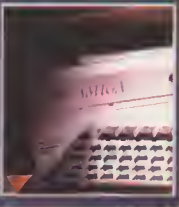
LETTER OF THE MONTH

On the up

I have a cheerful note to add to the ongoing debate concerning the future of the Amiga. I work for Forte, a big hotel chain which has recently installed a row of TV systems in their Poushouses. Through this system, Intelivision, you can access all your details on screen (i.e. billing, wakeup calls etc). There's a state-of-the-art graphics channel displaying all those facilities, and guess what I saw when they came to install the system? Yes, an Amiga 4000/030 running Scale. Now there are 81 Forte Poushouses in the UK and they are all linked up via modem to the central office where the scripts are uploaded to the units, but each hotel will be able to adapt software to include their own topics relative to the hotel. Who's worried about the part the Amiga has to play in future technology? I certainly ain't.

Finally, for the people who will never get enough of 3D animation, watch *Reboot*, a cartoon series which is shown on ITV on Tuesdays at 4.00 pm.

Michael Barkhorder, Coventry.



Home business

I am a fanatical Amiga 1200 user, who originally purchased my Amiga for its vast array of superb games. However, since reading magazines such as yours, I have become more and more interested in the more 'serious' side of computing. An area which has particularly caught my eye is public domain software, which I use regularly. I now want to set up and run my own PD library from home. I have all the equipment that I need already, so all I need now is some advice. I am concerned over the legal aspect of the business especially but I also need some general advice, on contacts and ideas especially. I would be eternally grateful if you could help me out in this venture, as I am looking forward to running a PD library of my own.

Daniel Strongword, Berkshire.

PD works on the basis that the author of the software releases his or her program into the public domain. Whilst they generally retain the copyright (meaning you can't alter it) you can copy it and pass it on, which is what PD firms do. As for sources of good PD software, get hold of the April issue of CU Amiga Magazine. This contains a PD Special showing some of the best PD titles around and where you can get them.

A foreign affair

Hello Amiga people. I live in France. The Amiga is great. I have a problem with your coverdisks, though, because I don't speak much English and your coverdisks are all in English. So, could you do two versions of the coverdisks - one in French and one in English?

Pierre Monto, Paris.

Sorry Pierre, no can do. The problem is that we couldn't fit two versions of the programs onto our cover disks because the disks are always overflowing with goodies and there just isn't any more room unfortunately!

Tell me more!

Greetings from Birmingham. I've been buying CU for more years than I care to remember. However, I've only just recently noticed an alarming trend - you only seem to be covering the Amiga Commodore produced PCs, and you're called 'Commodore User Amiga

Magazine' so why don't you cover the Commodore PC I've got? I await your answer.

Paul Jenkins, Birmingham.

Greetings!! You've been reading CU Amiga Magazine for a while have you? Well, if you have you should have realised by now that we've never covered Commodore PC (except in news), in fact it's been several years since they've even been made. Looking at the front cover of this magazine you'll notice that the word Amiga is rather large, and the 'CU' bit is rather small. This is because we're an Amiga magazine, nothing else. The Commodore reference is because Commodore make the Amiga. If you want to keep reading the magazine, why not upgrade from your PC to an Amiga?

Where's the disk?

For a long time now I have thoroughly enjoyed all your coverdisks. They and the magazine have been a great source of enjoyment. I've only ever had problems with two of the coverdisks. The first one was replaced within days without a hitch. The second disk *Directory Opus* (coverdisk 100) however is causing me great concern. I returned it approximately one month ago but I still haven't received a reply or replacement since. I rang DiskXpress and was told that a replacement disk would be forwarded to me but I have received nothing since. May I appeal to your good offices to lend a little weight to having a replacement disk forwarded as speedily as possible? I have also checked the March issue for any news about what might be causing the delay but to no avail.

D Steele, Kent.

There was a slight problem with this disk concerning individual Amigas that did not happen on any of our test machines. However, if you contact DiskXpress they'll now be able to supply you with a decompressed Directory Opus coverdisk which will work on your Amiga.

Absolute pants

In response to Jonathan Robbins' letter moaning about *Sensible World Of Soccer* (Backchat March 95) I think he is talking absolute pants. The improved goalkeepers add a new dimension to the game but can actually be beaten by long distance shots, the odd clumsy deflection and even the occasional normal effort.

In my first attempt at a career I took

Sensi Fancy League

Month
Results! At
last!

You've phoned or posted your entries by now, and you've probably told all your mates how brilliant your team is. But Sensi has a way of being unpredictable, especially in the clammy hands of jaded EMAP journalists. Here are the results of the matches and the goal scorers for each team.

JON HARE'S TEAM

Just how sensibe was Jon Hare's choice?

Player Name	Position	Code	Value	Goals	Points
Goalkeeper		GOAL	£2M	0	0
Slip into Bournemouth	D	1215	£200K	0	-26
Paulo Negro	M	1911	£200K	1	-7
Devo McPherson	D	1812	£1M	0	+9
Miguel Lusa	F	1814	£750K	0	-1
Vladimir Jugovic	M	2127	£1.5M	1	+4
Antonio Costa	M	1027	£500K	0	0
Joao Wilson	M	0976	£700K	0	-4
Paulo Negro	A	1431	£3.5M	5	+15
Sergio Araujo	F	0831	£2M	2	+10
Total					36

Thirty points! Luis Henrique in goal, Devo McPherson in defence and Sergio Araujo are the stars of the show, while Paulo Negro did well. he would have had a negative score but for his goal. Both Miguel and Vladimir Jugovic are strong in midfield but might have performed better considering they were both bought for around the £2M mark. And just what does Slip into Bournemouth think he is up to? 7-0 to AC Milan against Liverpool? Pull your socks up boyo!

HOW TO ADD UP YOUR SCORE

Twenty two teams were printed in the March and April issues of CU Amiga Magazine and The One For Amiga Games, and you should have chosen players from at least six of them. We won't go into any more detail about how the teams were formed because the competition entry date has now passed so you can't enter any more.

Points are added or deducted by conceding or goals in a match, scoring against the opposing team and letting in goals. The following list will tell you just how that works for each player.

- **GOALKEEPERS (G):** Give yourself four points (+4) if your selected goalkeeper has kept a clean sheet (ie, he's not let in any goals in a game). Deduct one point (-1) for every goal he has let in.
- **DEFENDERS (D):** Defenders receive four points (+4) for every goal they score and three points (+3) for every clean sheet they keep. However they lose one point (-1) for every goal their team concedes.
- **MIDFIELDERS (M):** Midfielders score four points (+4) for every goal they score.
- **ATTACKERS (A):** Attackers receive three points (+3) for every goal they score.

To work out your overall team management score add up the points that your four defenders, four midfielders and two attackers have gained by scoring in the first month's table of goal scorers as the opposite page. Then add to this the amount of clean sheet sheet scores your goal keeper and defenders have had. Finally add up all the goals that have been scored against each of your defenders and your goalkeeper and subtract this total from your previous points score total. You now have your overall score.

As an example see how Sensible Software's super supreme Jon Hare's team worked out using this scoring system in the box above.

MATCH SCORES MONTH 1

The following are the full results of all matches played in the 14 rounds of month one of the Sensible Soccer Fancy League. Use these figures to find out how many goals were scored against your goalkeeper and defenders. Remember, if you goalie's team concedes no goals you get a +4 bonus, if any of you midfielder's teams have a clean sheet you get a +3 bonus.

Round 1

ALFA 5	GALATASARAY 2
LIVERPOOL 3	LYONS 1
LATVIAN BUREAU 4	FC PORTO 1
MANCHESTER UNITED 1	TOTTENHAM 2
BLACKBURN Rovers 0	SAMPDORIA 1
REAL MADRID 2	ARSENAL 2
NEWCASTLE 1	REAL MADRID 1
AC MILAN 0	PARIS ST GERMAIN 0
NI GUYA CRENSPUS 1	JUVENTUS 2
LAZIO 1	BARCELONA 1

Round 2

ALFA 2	GALATASARAY 0
LYONS 1	BLACKBURN Rovers 0
FC PORTO 2	MANCHESTER UNITED 0
TOTTENHAM 1	MANCHESTER UNITED 1
ARSENAL 1	REAL MADRID 1
MILAN 0	PARIS ST GERMAIN 1
JUVENTUS 2	BARCELONA 1

Round 3

LYONS 1	ALFA 4
GALATASARAY 2	BARCELONA 1
FC PORTO 1	BARCELONA 1
SAMPDORIA 2	MANCHESTER UNITED 2
TOTTENHAM 1	NEWCASTLE 1
REAL MADRID 1	ARSENAL 2
JUVENTUS 1	PARIS ST GERMAIN 1
BARCELONA 2	LAZIO 0
NI GUYA CRENSPUS 1	

Round 4

ALFA 1	BATEYEN UNITED 0
GALATASARAY 1	LIVERPOOL 1
BLACKBURN 1	MANCHESTER UNITED 1
LYONS 1	ARSENAL 1
FC PORTO 1	REAL MADRID 0
MAN UTD 1	JUVENTUS 2
BATEYEN 1	NI GUYA CRENSPUS 0
ATLETICO MADRID 1	NEWCASTLE 1
SAMPDORIA 1	REAL MADRID 0
MANCHESTER UNITED 1	BARCELONA 2
PARIS ST GERMAIN 2	BARCELONA 2

Round 5

LYONS 1	ALFA 0
LATVIAN BUREAU 3	GALATASARAY 2
FC PORTO 0	BARCELONA 1
BLACKBURN Rovers 0	WATER PLATE 1
ARSENAL 2	MAN UTD SUMMER 0
MANCHESTER UNITED 2	TOTTENHAM 1
REAL MADRID 0	ATLETICO MADRID 1
NEWCASTLE 1	SAMPDORIA 1
AC MILAN 0	BARCELONA 1
PARIS ST GERMAIN 4	JUVENTUS 1
LAZIO 1	

Round 6

BLACKBURN 0	ALFA 1
FC PORTO 2	GALATASARAY 1
BARCELONA 2	BATEYEN 1
WATER PLATE 4	LIVERPOOL 3
NEWCASTLE 0	MAN UTD SUMMER 0
TOTTENHAM 0	AC MILAN 0
ATLETICO MADRID 1	PARIS ST GERMAIN 1
SAMPDORIA 5	NI GUYA CRENSPUS 2
MANCHESTER UNITED 2	JUVENTUS 0
LAZIO 1	ARSENAL 1
REAL MADRID 2	BARCELONA 2

Round 7

ALFA 4	FC PORTO 0
GALATASARAY 2	BLACKBURN 0
BARCELONA 2	LIVERPOOL 0
WATER PLATE 0	BATEYEN MADRID 1
MAN UTD SUMMER 1	ATLETICO MADRID 2
PARIS ST GERMAIN 1	TOTTENHAM 3
ATLETICO MADRID 2	AC MILAN 0
SAMPDORIA 2	JUVENTUS 3
NI GUYA CRENSPUS 0	MANCHESTER UNITED 1
ARSENAL 1	LAZIO 2
NEWCASTLE 1	

Round 8

ALFA 2	MANCHESTER UNITED 2
GALATASARAY 1	TOTTENHAM 2
BARCELONA 1	ATLETICO MADRID 0
WATER PLATE 1	SAMPDORIA 2
BATEYEN MADRID 0	MANCHESTER 1
LIVERPOOL 0	AC MILAN 1
BLACKBURN 3	PARIS ST GERMAIN 1
FC PORTO 1	NI GUYA CRENSPUS 0
ARSENAL 1	JUVENTUS 1
BARCELONA 3	NEWCASTLE 0
REAL MADRID 2	LAZIO 0

Round 9

TOTTENHAM 2	ALFA 1
MAN UTD SUMMER 0	GALATASARAY 2
SAMPDORIA 0	BARCELONA 2
ATLETICO MADRID 4	WATER PLATE 3
BATEYEN MADRID 1	ATLETICO MADRID 1
PARIS ST GERMAIN 0	FC PORTO 1
AC MILAN 2	BLACKBURN 0
LAZIO 3	FC PORTO 1
MANCHESTER UNITED 0	BARCELONA 0
NI GUYA CRENSPUS 1	NEWCASTLE 2
JUVENTUS 0	REAL MADRID 1

Round 10

ALFA 2	ATLETICO MADRID 3
GALATASARAY 2	SAMPDORIA 2
MANCHESTER 2	MAN UTD SUMMER 0
WATER PLATE 2	TOTTENHAM 1
NEWCASTLE 0	BATEYEN MADRID 0
NI GUYA CRENSPUS 0	LIVERPOOL 2
BLACKBURN 0	JUVENTUS 2
FC PORTO 1	BARCELONA 1
LAZIO 1	MANCHESTER UNITED 0
BARCELONA 1	AC MILAN 0
REAL MADRID 1	PARIS ST GERMAIN 1

Round 11

BARCELONA	ALBA
ATLETICO MADRID	OLIM ASABA
TOTTENHAM	BADERS
MAN UTD	RIVER PLATE
BAYERN MUNICH	REAL MADRID
LIVERPOOL	LAZIO
BARCELONA	NEACBURJ
AC MILAN	FC PORTO
PARIS SG GERMAIN	MANCHESTER UTD
ARSENAL	MIDSWY BRUMFAS
JUVENTUS	NEWCASTLE

Round 12[illegible]

Round 13

LIVERPOOL	ARSENAL
MANCHESTER UNITED	CHALMERSBUR
BARCELONA	REAL MADRID
BOYER PLATE	HYMCASTLE
TO BRENNAN	DAYTON NEWARK
LIVERPOOL	BARCELONA
BLACKBURN	LAZIO
FC PORTO	JUVENTUS
MANCHESTER UNITED	AC MILAN
MILAN	ATHLETIC BILBAO
PARIS ST GERMAIN	SALERNITANA

Round 14

NEWCASTLE 2	ALBA 0
REAL MADRID 5	GALATASARAY 2
AC MILAN 0	HAMBERS 2
PARIS 05 ST GERMAIN 0	LYON 1 PLATE 3
BIGYA HOENPAS 1	DAYTON MUMOCK 0
LYNFPOL 2	MANCHESTER UNITED 2
SLAVENBROU 0	MANCHESTER UNITED 2
ARSENAL 3	FC PORTO 2
JUVENTUS 1	TOTTENHAM 0
ATHLETIC BILBAO 3	Lazio 3
BARCELONA 1	BARCELONA 0

GOALS SCORED MONTH 1

The following figures relate to the total amount of goals scored by each player in all 14 rounds played this month. Use this to calculate the plus points for defenders, midfielders and strikers.

NAME	POSITION	CODE	NO OF COLOS	LYRICAL STATIONS		1981-2
AL CANIAN (ITALY)				Thomas Haines	B	881-2
Johnstone David	B	811-8	0	Thomas Haines	B	881-1
Christina Lombardi	B	811-2	0	Jacquino	B	882-2
Francis Basso	B	811-3	1	Christina Lombardi	B	882-1
Alessandro Contarino	B	811-9	0	Manuela Scherer	B	882-0
Paolo Meloni	B	811-5	1	Christina Enzo	B	882-2
Roberto Donatelli	B	811-6	1	Joao Paulo Pagan	A	882-0
Roberto Alciati	B	811-7	1	Anna Sartor	A	882-1
Marcel Beaudry	B	812-0	2			
Donatelli Luciani	B	812-5	0	BLACKBURN BOYS (ENGLAND)		
Diana Sanderson	A	812-8	5	Tim Flowers	B	8281
Alexander Mott	A	812-5	5	Stanley Bop	B	821-0
				John Bop	B	811-3
				Colin Wood	B	811-0
				David J. Lee	B	812-0
AKA (HOLLAND)				Donat Pagan	B	812-0
Edson Van Der Sar	B	820-0	0	David Pagan	B	812-0
Richard Scherer	B	821-2	0	David Pagan	B	812-0
Emmy Hilari	B	821-3	0	Tim Flowers	B	812-0
Frankie De Gato	B	821-6	0	Joao Pagan	B	812-0
Paul Hilde	B	822-5	1	David Pagan	A	820-0
Frank Hilde	B	822-8	2	Anna Sartor	A	821-5
Edgar Hilde	B	822-7	0			
John Jansson	B	822-8	2			
Marc Brynner	B	822-9	0	THE PROS (SPAIN)		
Patrici Hilde	A	823-0	6	Victor Bop	B	880-0
Robert De Vries	B	823-1	11	Joao Pagan	B	881-2
				Anna Sartor	B	881-6
				Joao Pagan	B	881-5
				Donat Pagan	B	881-1
ALFALFA (HOLLAND)				Donat Pagan	B	881-2
Bertie Hilde	B	830-0	0	Secretaria	B	881-1
John Bop	B	831-0	1	Anna Sartor	B	881-2
David Bop	B	831-2	0	Joao Pagan	B	881-2
Yoko Hilde	B	831-6	1	Anna Sartor	B	881-2
Royal Producers	B	831-0	0	Anna Sartor	B	881-2
John Bop	B	832-0	1	Anna Sartor	B	881-2
John Bop	B	832-7	0	Anna Sartor	B	881-2
Stephen Schwarz	B	832-0	0	ALFALFA (HOLLAND)		
Paul Hilde	B	832-0	0	Secretaria	B	881-1
Anna Sartor	A	833-0	0	Anna Sartor	B	881-2
Anna Sartor	B	833-7	7	Anna Sartor	B	881-2
				Anna Sartor	B	881-2
				Anna Sartor	B	881-2
ALFALFA (HOLLAND)				Anna Sartor	B	881-2
John Bop	B	840-0	0	Anna Sartor	B	881-2
John Bop	B	841-2	5	Anna Sartor	B	881-2
John Bop	B	841-3	0	Anna Sartor	B	881-2
John Bop	B	841-6	1	Anna Sartor	B	881-2
John Bop	B	841-1	1	Anna Sartor	B	881-2
John Bop	B	842-0	2	Anna Sartor	B	881-2
John Bop	B	842-7	1	Anna Sartor	B	881-2
John Bop	B	842-8	3	Anna Sartor	B	881-2
John Bop	B	842-9	2	Anna Sartor	B	881-2
John Bop	B	843-0	2	Anna Sartor	B	881-2
John Bop	B	843-1	10	Anna Sartor	B	881-2
ALFALFA (HOLLAND)						
John Bop	B	844-0	0			
John Bop	B	844-2	5			
John Bop	B	844-3	0			
John Bop	B	844-6	1			
John Bop	B	844-1	1			
John Bop	B	844-0	2			
John Bop	B	844-7	1			
John Bop	B	844-8	3			
John Bop	B	844-9	2			
John Bop	B	845-0	2			
John Bop	B	845-1	10			
ALFALFA (HOLLAND)						
John Bop	B	846-0	0			
John Bop	B	846-2	5			
John Bop	B	846-3	0			
John Bop	B	846-6	1			
John Bop	B	846-1	1			

[illegible]

Next Month

Remember, the league you selected us by was all on our fancy League database. Although the results of the majority of the month's matches are not yet known, we'll publish those scores and those of the top 50 managers from this month's games in the next issue. We'll also bring you the results of the next 15 rounds of matches, so update us Jon Hare's team and let us know just how well (or how badly) the CFI Angus Magazine's team selections have gone.

Viewpoints

John Kennedy
has some
things to say
about Bulletin
Boards and
the dreaded
Information
Supernetwork

Boring Bulletins



Wide Web system on the Internet. It's brilliant — click here, click there, colour graphics, sound, animation. It's the way comms should be, not some archaic system of ANSI character sets. The World Wide Web works because the pages of information which make up the text and pictures you see are all based on special

Bulletin Boards are boring. Before you rush to the end of this rant to find my E-mail address and toast me with a fern, please hear me out. I don't mean that I think that Bulletin Boards are dull and tedious by definition and are used by dull and tedious people with a tenuous grasp of true social interaction. Far from it, my local board has given me a great deal of enjoyment thanks to the FidoNet system where I've met and chatted with other comms enthusiasts from all over the world. And they were not dull, tedious or socially inadequate

Too difficult?

Bulletin Boards are boring because they are based on ancient technology. The first boards were slow, text-only systems, where users had to register, log in, then pick options from on-screen menus by selecting the right keypresses. Once into the system, they could look through message and file areas, struggle with options and maybe get to download stuff.

And what has changed since those first boards? Practically nothing. I recently watched an intelligent computer literate adult use a BBS for the first time. He was stuck within minutes. This is the problem. Comms is too damn difficult. It's a crazy situation. Look at the Mosaic browser for the World

embedded codes called HTML. It's a brilliantly simple system you just used codes like `<I>this</I>` to make changes to the text style. You want a picture? Easy, add something like ``.

This is all possible thanks to the 'Client/Server' systems. The client program runs on your computer, the server runs on the remote system. Rather than just display text sent from the server system, the client acts intelligently and can display graphics or sounds, or move icons and windows around the screen. For example, the server might transmit the code `` and instead of displaying the letter 'B' the client executes a routine that changes the font into bold style.

The answer?

Recently I've been working on a system called Balloo which tries to take the HTML standard and hammers it into a form that Bulletin Boards can use. The problem is not with the BBS Host Software but with a suitable client. To this end I've been coding a new form of comms terminal for the Amiga. It looks like any other, except when text from the BBS host arrives in HTML format, it is rendered properly. This includes graphics and buttons that the user can click on clicking on a button simply returns a key-press, so the host system

doesn't have to do anything clever. The only changes the SysOp has to make is to include an HTML option for the menu screens he has on-line.

There are problems to overcome of course. The Internet was originally designed on the principle that connection was never a problem, machines were on-line permanently. If you have ever seen a really fast internet link running a program such as Mosaic, you'll know what a really smart tool it is, and how trying to use it with a 14,400 or 28,800 modem link is really a bit of a joke. Mosaic, and most Usenet news readers and E-mail systems, are all geared for on-line use. There is no off-line option for the reason that the original systems were always on-line 100% of the time. Besides, the World Wide Web works because all the other systems are on-line and there is so much information to choose from that trying to make an off-line system is ludicrous.

Unfortunately, in the UK the majority of modem users know that every second they spend on-line costs them money, and as my telephone bills will testify, it's not cheap if you have to use it a lot.

What we need are new tools, specifically tailored to the needs of the home computer user. Mosaic isn't enough, and a normal BBS is too limited and down right difficult to use.

So we have to capitalise on the facilities we do have. The latest modems, the V34 28,800 modems are far from ISDN links but they are probably as fast as we can expect to get down a telephone line and they are getting cheaper. So is off-line storage — the other day I got a SCSI 21 Gigabyte drive for less than spent on a drive of only a third of that capacity a year ago.

We've got fast processors, and great graphics. In theory we have a terrific platform on which to run a stunning client system. What can we do about it?

The Balloo project is a start. I know there are systems such as RIP out there, but I feel they are probably not the direction in which we should be moving. If you think you would like to help or have any comments please get in touch with me either by post through the magazine or via electronic mail. ■

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FidoNet: 2 443/13.4

The opinions expressed in this article are not necessarily those held by CU Amiga Magazine, if you held an opinion on the Internet or any other Amiga related topic then Email us at CUAMIGA@cu.computink.co.uk or the ame@cu.computink.co.uk.

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AGA
FLICKER
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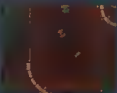
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